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COOPERATIVE RESEARCH REPORT

TO THE BUREAU OF LAND MANAGEMENT

ANNUAL PROGRESS REPORT

1973
RESULTS

PHENOLOGY AND PRODUCTION STUDIES ON SEMI-ARID SHRUB TYPES

SUMBITTED BY WYOMING AGRICULTURAL EXPERIMENT STATION

JULY 1974

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PHENOLOGY AND PRODUCTION STUDIES ON SEMI-ARID SHRUB TYPES[1]

1973 ANNUAL PROGRESS REPORT

BY

H. G. Fisser and L. H. Kleinman[2]

Table of Contents

Page

Section I Phenology Study 1

Section II Precipitation Pattern Study 134

Section III Exclosure Studies (Production, Cover and Precipitation Phase) 139

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[1] Published with the approval of the Director, Wyoming Agricultural Experiment Station, as Scientific Report No. 607.

[2] Professor of Range Management and Research Associate, Range Management Section, University of Wyoming, Laramie, respectively.

SECTION I

PHENOLOGY STUDY

1973

Introduction

Phenological study of important plant species in terms of productivity and microenvironmental variations will provide information that can be used to increase the efficiency of Bureau decision making with respect to management alternatives and disposition of natural resource areas.

Phenology studies of important shrub and grass species will provide detailed biological information related to specific changes in environmental characteristics such as time, duration, temperature, and movement. Very little detailed phenology and productivity information is available for arid land species of the western United States. Basic scientific knowledge and the Bureau capability for more precise information related to their resource management techniques will be enhanced by the phenology studies.

Artemisia tridentata, *Artemisia nova*, *Agropyron smithii*, and *Agropyron spicatum* are the major shrub and grass species in the intermountain region on semi-arid, low elevation grazing ranges of public land. These species are especially important in the semi-arid regions of the western half of Wyoming from the Montana border on the north and the Utah and Colorado borders on the south. Their importance in adjacent states is equally significant. The ecological divergence of these four species is very great. They are found from high elevations to very low elevations, and from mesic to xeric situations. Therefore, these four species, in the development of the cooperative research program between the Bureau of Land Management and the University of

Wyoming, were selected for intensive studies; to determine interrelationships of phenology, production, environment, and utilization. These kinds of data are of major importance to the BLM for development of efficient and sound resource management decisions.

Intensive phenological studies were located on selected exclosure areas. First level evaluation areas are: Demer exclosure, Farson exclosure, Horse Creek exclosure, Shoshoni Ant #7 exclosure, and Sweetwater exclosure. Second level evaluation areas are: Bud Kimball exclosure, Cedar Mountain exclosure, Cumberland #3 exclosure, Mesa Antelope exclosure, Owl Draw exclosure, Red Wash #2 exclosure, and Upper Gov't. Draw exclosure.

Phenophase descriptions and stages with numerical scales were set up for four specific plant species; *Agropyron smithii*, *A. spicatum*, *Artemisia nova*, and *A. tridentata*, plus one phenological inventory for all plant species. Seasonal development (July-December) was recorded for 93 plant species in 12 exclosure areas. Individual plants of the four principle species in each of the 12 selected exclosure areas were permanently located for repeated observation.

Plans for 1974 call for a continuation of data collection. Criteria for environmental data will be established, and the data collected. There will be continued revision and sophistication of present numerical descriptions of plant growth characters.

Objectives

The objectives of the study are to determine:

(1) the relationship of phenodynamics with vegetation production and environmental data;

(2) relationships of phenodynamics and environmental characteristics to grazing and management procedures.

Methods and Procedures

Twenty individual plants of each of the four principle species were permanently located along a 100 foot line in 12 exclosures. Every 5 ft. on the line, directions along and from the line for the closest plant were recorded.

Phenological measurements of *Artemisia nova* and *A. tridentata* included plant size, age, vegetative stages of growth with twig length, and reproductive stages of flowering and seed ripening with seed stalk length. Phenological measurements of *Agropyron smithii* and *A. spicatum* included plant size, age, vegetative stages of growth with leaf width and height; reproductive stages with spike height, number of spikelets per seed head and seed head development.

Phenological stages and numerical scores for shrubs and forbs are:

1. = initial start of growth of the plant;
2. = early vegetative growth -- the new leaves are developing and elongating;
3. = immature vegetative growth -- the new twigs are elongating;
4. = full vegetative growth -- the leaves and twigs are fully developed;
5. = floral bud stage -- the first buds begin development to the initiation of bloom;
6. = early bloom -- includes the initiation of bloom to 10% bloom;
7. = mid bloom -- includes 10% to 75% of bloom;
8. = full bloom -- includes 75% bloom to 100% bloom;
9. = late bloom -- the flowers are drying and seeds are beginning to form;

10. = milk stage -- the seeds are soft and immature (not well formed);

11. = dough stage -- the seed is well formed but still soft;

12. = ripe seed -- the seed is mature and hard;

13. = past ripe -- the seed is ripe but not shattered, and reproductive parts of the plant (seed stalk, etc.) are mature, and are beginning to weather;

14. = mature vegetative -- the vegetative parts are beginning to brown to complete browning;

15. = mature reproductive -- the reproductive parts are curing (stem, leaf, and seeds are shattering);

16. = fall regreening -- and/or leaf shed;

17. = winter dormancy.

The plant age classes of shrubs are classified as:

1. = seedling;

2. = young and small;

3. = intermediate age and size;

4. = old and decadent.

The phenological stages and numerical scores for grasses are:

1. = first leaf stage -- from the appearance of first leaf to appearance of second leaf;

2. = second leaf stage -- from the appearance of second leaf to appearance of third leaf;

3. = third leaf stage -- from the appearance of the third leaf to appearance of the fourth leaf;

4. = fourth leaf stage -- from the appearance of the fourth leaf to full leaf development;

5. = boat stage -- the seed stalk is elongating and the noticeable swelling of the seed head in boat;

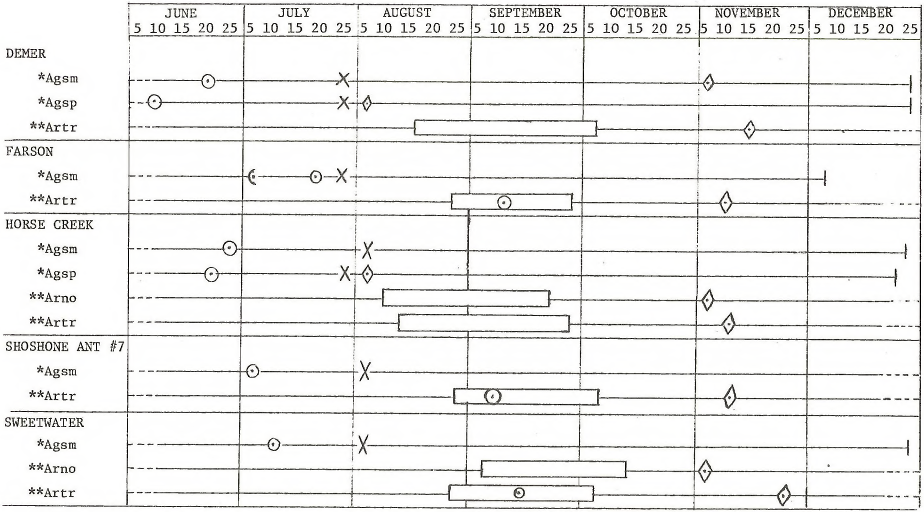
6. = seed head emergence -- from the beginning of emergence of the seed head to the start of anthesis;
7. = early anthesis -- from initiation of anthesis to 10% of florets in bloom;
8. = mid anthesis -- from 10% of florets in bloom to 75% of florets in bloom;
9. = full anthesis -- 75% and more of the florets in bloom;
10. = milk stage -- the seed is soft and immature (not well formed);
11. = dough stage -- the seed is well formed but still soft;
12. = ripe seed -- the seed is well formed and hard;
13. = past ripe -- the reproductive parts begin to weather;
14. = vegetative parts browning;
15. = reproductive parts curing -- stems, leaves and seeds cost;
16. = fall regreening -- with adequate fall moisture and temperature there is fall regrowth;
17. = winter dormancy.

The maturity of Agropyron spicatum clumps are classified as: (a) seedling, (b) young, (c) intermediate, (d) mature, and (c) old. Each maturity classification can them be designated as: (a) sparse, (b) intermediate, (c) dense, and (d) decadant. a dense seedling? a decadent seedling?

Results

An alphabetical listing of each study exclosure, the county where located and the principle phenology species is shown in Table I. Table II is an alphabetical listing of 93 species found in the 12 phenology study exclosures. A phenological inventory of all species in each study exclosure is shown in Table III. Table IV is a listing of the permanently located plants of the four principle species in each study exclosure. The phenological development averages for the four principle species in each of the five first level of evaluation study exclosures are shown in Figure 1.

Figure 1. The average developmental events for Agropyron smithii, A. spicatum, Artemisia nova, and A. tridentata.



LEGEND: *Grasses - ⊢Growth starts; (·Flower stalks appear; ⊙Bloom; X Drying starts; ◇ Dissemination starts; ⊣Plant dried.

**Shrubs - ⊢Growth starts; [First bloom; ⊙Full bloom;]Bloom over; ◇ Dissemination starts; ⊣Plant dried.

TABLE I. Alphabetical listing of study areas, the county where each occurs, and the principle species.

Exclosure Name	County	Principle Species
Bud Kimball	Washakie	Agropyron smithii Artemisia tridentata
Cedar Mountain	Sweetwater	Agropyron spicatum Artemisia tridentata
Cumberland #3	Lincoln	Agropyron smithii Agropyron spicatum Artemisia tridentata
Demer	Washakie	Agropyron smithii Agropyron spicatum Artemisia tridentata
Farson	Sweetwater	Agropyron smithii Artemisia tridentata
Horse Creek	Big Horn	Agropyron smithii Agropyron spicatum Artemisia nova Artemisia tridentata
Mesa Antelope	Sublette	Agropyron smithii Artemisia tridentata
Owl Draw	Natrona	Agropyron smithii Agropyron spicatum Artemisia nova Artemisia tridentata
Red Wash #2	Sweetwater	Agropyron smithii Agropyron spicatum Artemisia tridentata
Shoshone Ant #7	Fremont	Agropyron smithii Artemisia tridentata
Sweetwater	Fremont	Agropyron smithii Artemisia nova Artemisia tridentata
Upper Gov't. Draw	Fremont	Agroypron smithii Artemisia tridentata

Table II. LIST OF PLANT NAMES WHICH OCCURRED IN PHENOLOGY STUDY AREAS.

Code	Genus--Species	Common Name	Life Form	Longevity
AGCR	Agropyron cristatum	Crested wheatgrass	Grass	Perennial
AGGL	Agoseris glauca	Pale agoseris	Forb	Perennial
AGSM	Agropyron smithii	Western wheatgrass	Grass	Perennial
AGSP	Agropyron spicatum	Bluebunch wheatgrass	Grass	Perennial
ALTE	Allium textile	Textile onion	Forb	Perennial
ARFR	Artemisia frigida	Fringed sagewort	Half-shrub	Perennial
ARCO	Arabis cobrensis	Rockcress	Forb	Annual
ARHO	Arenaria hookeri	Hooker sandwort	Forb	Perennial
ARHO[2]	Arabis holboellii	Holboell rockcress	Forb	Perennial
ARLO	Aristida longiseta	Red three-awn	Grass	Perennial
ARNO	Artemisia nova	Black sagebrush	Shrub	Perennial
ARSP	Artemisia spinescens	Bud sagebrush	Half-shrub	Perennial
ARTR	Artemisia tridentata	Big sagebrush	Shrub	Perennial
AST	Astragalus spp.	Milkvetch	Forb	Perennial
ASCI	Astragalus cibarius	Silky milkvetch	Forb	Perennial
ASDI	Astragalus diversifolius	Meadow milkvetch	Forb	Perennial
ASPU	Astragalus purshii	Pursh loco	Forb	Perennial
ASSP	Astragalus spatulatus	Tufted milkvetch	Forb	Perennial
ATCO	Atriplex confertifolia	Shadscale saltbush	Shrub	Perennial
ATNU	Atriplex nuttallii	Nuttall saltbush	Half-shrub	Perennial
BOGR	Bouteloua gracilis	Blue grama	Grass	Perennial
BRCO	Bromus commutatus	Hairy chess	Grass	Annual
BRTE	Bromus tectorum	Cheatgrass	Grass	Annual
CAEL	Carex eleocharis	Needleleaf sedge	Sedge	Perennial
CAFI	Carex filifolia	Threadleaf sedge	Sedge	Perennial
CANU	Calochortus nuttallii	Mariposa lily	Forb	Perennial
CAS	Castilleja spp.	Paintbrush	Forb	Perennial
CHDO	Chaenactis douglasii	Douglas dustymaiden	Forb	Perennial
CHFR	Chenopodium fremontii	Fremont goosefoot	Forb	Annual
CHNA	Chrysothamnus nauseosus	Rubber rabbitbrush	Shrub	Perennial
CHVI	Chrysothamnus viscidiflorus	Green rabbitbrush	Shrub	Perennial
CIR	Cirsium spp.	Thistle	Forb	Perennial
COPA	Commandra pallida	False toadflax	Forb	Perennial
CORA	Cordylanthus ramosus	Branched birdbeak	Forb	Annual
CRBR	Cryptantha bradburiana	Miners candle	Forb	Perennial
CRFL	Cryptantha flavoculata	Cryptantha	Forb	Perennial
CRE	Crepis spp.	Hawksbeard	Forb	
DEBI	Delphinium bicolor	Low larkspur	Forb	Perennial
DEGE	Delphinium geyeri	Plains larkspur	Forb	Perennial
DEPI	Descurainia pinnata	Pinnate tansymustard	Forb	Annual
ERCA	Erigeron canadensis	Horseweed fleabane	Forb	Annual
ERCE	Eriogonum cernuum	Noddina eriogonum	Forb	Annual
ERFL	Eriogonum flavum	Yellow wildbuckwheat	Half-shrub	Perennial
ERMI	Eriogonum microthecum	Slenderbush	Forb	Perennial
EROV	Eriogonum ovalifolium	Cushion eriogonum	Forb	Perennial
ERPU	Erigeron pumilus	Fleabane	Forb	Perennial
EULA	Eurotia lanata	Winterfat	Half-shrub	Perennial

TABLE II. Continued

Code	Genus--Species	Common Name	Life Form	Longevity
FEOC	Festuca octoflora	Sicweek fescue	Grass	Annual
GIAG	Gilia aggregata	Skyrocket gilia	Forb	Perennial
GRSP	Greyia spinosa	Spiny hopsage	Shrub	Perennial
GUSA	Gutierrezia sarothrae	Broom snakeweed	Half-shrub	Perennial
HAAC	Haplopappus acaulis	Stemless goldenweed	Forb	Perennial
JUOS	Juniperus osteosperma	Utah juniper	Tree	Perennial
JUSC	Juniperus scopulorum	Rockymountain juniper	Shrub	Perennial
KOAM	Kochia americana	Greenmolly summercrypress	Shrub	Perennial
KOCR	Koeleria cristat	June grass	Grass	Perennial
LARE	Lappula redowskii	Stickseed	Forb	Annual
LEDE	Lepidium densiflorum	Prairie pepperweed	Forb	Annual
LELU	Lesquerella lidoviciana	Foothill bladderpod	Forb	Perennial
LEPU	Leptodactylon pungens	Granite gilia	Forb	Perennial
LERE	Lewisia rediviva	Bitterroot	Forb	Perennial
LOSI	Lomatium simplex	Narrowleaf lomatium	Forb	Perennial
MACA	Machaeranthera canescens	Hoary aster	Forb	Perennial
MAGR	Machaeranthera grindelodes	Woody astern	Forb	Perennial
MELO	Merlencia longiflora	Small bluebells	Forb	Perennial
OPPO	Opuntia polyacantha	Plains pricklypear	Forb	Perennial
ORHY	Oryzopsis hymenoides	Indian ricegrass	Grass	Perennial
OXLA	Oxytropis lambertii	Lambert loco	Forb	Perennial
PECL	Penstemon cleburnei	Larchleaf penstemon	Forb	Perennial
PHHO	PHlox hoodii	Hood's phlox	Forb	Perennial
PHLO	Phlox longifolia	Long-leaf phlox	Forb	Perennial
PLPA	Plantago patagonica	Wooly indianwheat	Forb	Annual
PLSP	Plantago spinescens	Spiny indianwheat	Forb	Annual
POFE	Poa fendleriana	Muttongrass	Grass	Perennial
POSE	Poa secunda	Sandberg bluegrass	Grass	Perennial
PSTE	Psoralea tenuiflora	Slimflower scurfpea	Forb	Annual
RHTR	Rhus trilobata	Skunkbush sumac	Shrub	Perennial
SAKA	Salsola kali	Russian thistle	Forb	Annual
SIHY	Sitanion hystrix	Squirreltail bottlebrush	Grass	Perennial
SILI	Sisymbrium linifolium	Tumbleweed	Forb	Annual
SPCO	Sphaeralcea coccinea	Scarlet globemallow	Forb	Perennial
STCO	Stipa comata	Needleandthread	Grass	Perennial
SYCO	Symphoricarpos occidentalis	Western snowberry	Shrub	Perennial
TECA	Tetradymia canescens	Gray horsebrush	Shrub	Perennial
TESP	Tetradymia spinosa	Spiny horsebrush	Shrub	Perennial
TOIN	Townsendia theana	Hoary townsendia	Forb	Perennial
TRI	Trifolium spp.	Clover	Forb	
TRDU	Tragopogon dubius	Salsify	Forb	Perennial
VIAM	Vicia americana	American vetch	Forb	Perennial
VIVA	Viola valicola	Nuttall violet	Forb	Perennial
VUOC	Vulpia octoflora	Common sixweeksgrass	Grass	Annual
YUGL	Yucca glauca	Small soapweed	Forb	Perennial
ZYVE	Zygadenus venonosus	Death camas	Forb	Perennial

TABLE III.

PHENOLOGICAL INVENTORY Study Area Bud Kimball Type-site ARTR-AGSM

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	17 Jul 73		2 Aug 73																			
1. AGSM	14.0	13.0	14.3	13.5																		
2. ALTE	14.9	15.0	15.9	15.9																		
3. ARHO[2]	15.9	15.9	15.9	15.9																		
4. ARTR	3.1	5.0	3.6	5.4																		
5. BRCO	14.0	13.5	14.9	15.3																		
6. BRTE	15.9	15.9	15.9	15.9																		
7. CAS	14.9	15.0	15.9	15.9																		
8. CRE	14.9	15.9	15.9	15.9																		
9. DEPI	15.9	15.9	15.9	15.9																		
10. KOCR	14.0	13.5	14.2	15.9																		
11. LARE	14.9	13.5	15.9	15.9																		
12. LERE	15.9	15.9	15.9	15.9																		
13. MAGR	4.0	--	--	--																		
14. MATA	14.0	15.9	14.3	15.9																		
15. OPPO	14.0	11.0	14.1	12.5																		
16. PHHO	14.5	15.9	15.9	15.9																		
17. PLSP	14.0	13.0	15.9	15.9																		
18. POSE	14.9	13.9	15.9	15.9																		
19. SIHY	14.3	15.0	14.6	15.5																		
20. SPCO	--	--	4.5	15.9																		
21. STCO	14.0	13.5	14.1	15.2																		
22.																						

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Cedar Mountain Type-site ARTR-AGSP

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	28 June 1973		30 July 1973																			
1. AGCR	4.0	10.0	14.0	11.5																		
2. AGSP	4.3	6.2	14.0	12.0																		
3. ARHO	3.5	9.0	14.0	15.9																		
4. ARHO[2]	--	12.0	15.9	15.9																		
5. ARSP	4.5	5.5	14.2	15.9																		
6. ARTR	3.7	-0	3.5	5.1																		
7. ASPU	4.0	13.7	--	--																		
8. ATCO	3.8	5.0	4.0	5.0																		
9. ATNU	4.0	11.0	4.9	11.5																		
10. CHVI	2.8	0	4.2	5.0																		
11. EULA	3.8	0	4.9	0																		
12. HAAC	4.0	12.5	--	--																		
13. KOAM	3.0	5.0	4.0	5.0																		
14. OPPO	4.0	6.0	4.5	12.0																		
15. ORHY	4.0	10.5	4.9	12.5																		
16. PHHO	4.8	15.0	14.2	15.9																		
17. PHLO	3.0	5.0	--	--																		
18. POSE	4.8	11.8	16.0	15.9																		
19. SIHY	4.5	9.0	14.1	13.9																		
20. SILI	4.5	15.0	--	--																		
21. TESP	3.7	5.5	4.5	11.0																		
22.																						

TABLE III. (continued_

PHENOLOGICAL INVENTORY Study Area Cedar Mountain Type-site ARTR-AGSR

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	28 June 1973		30 July 1973																			
1. TOIN	--	7.0	--	--																		
2. VIVA	4.2	15.9	15.9	15.9																		
3.																						
4.																						
5.																						
6.																						
7.																						
8.																						
9.																						
10.																						
11.																						
12.																						
13.																						
14.																						
15.																						
16.																						
17.																						
18.																						
19.																						
20.																						
21.																						
22.																						

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Cumberland #3 Type-site ARTR-AGSP

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	28 June 1973		2 July 1973		31 July 1973		14 Aug. 1973															
1. AGGL	4.8	11.0																				
2. AGSM	4.0	9.5	4.1	9.6	14.0	11.5	14.3	13.5														
3. AGSP	3.8	9.0	3.8	9.5	14.0	12.5	14.5	15.7														
4. ANDI	4.0	11.5	4.7	13.0																		
5. ARCO	4.2	8.5																				
6. ARHO[2]	—	12.5	4.8	12.6	15.9	15.9	15.9	15.0														
7. ARTR	3.3	0	3.4	5.0	3.3	5.1	3.7	5.5														
8. ASCI	4.0	15.0	4.9	15.9			14.2	15.9														
9. ASDI	4.0	6.0	4.1	7.0	4.9	15.9	14.5	15.9														
10. AST	4.0	11.0																				
11. CAFI	3.0	5.5																				
12. CANU	3.0	5.5	3.5	6.0	14.7	15.9	15.9	15.9														
13. CHVI	3.8	5.1	3.9	5.1	4.5	5.2	4.5	8.8														
14. COPA	3.8	5.0					14.0	15.9														
15. CORA	3.0	5.0	3.5	5.1																		
16. CREPIS	3.9	6.0	3.9	7.0			14.5	15.0														
17. ERMI	3.5	5.5	3.5	5.5			4.3	8.7														
18. EROV	3.0	9.0					14.1	15.0														
19. KOCR							14.3	15.9														
20. LOSI	4.0	10.0																				
21. MELO	4.9	12.0																				
22. OPPO	3.6	5.0																				

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Cumberland #3 Type-site ARTR-AGSP

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	28 June 1973		2 July 1973		31 July 1973		14 Aug. 1973															
1. ORHY	3.5	8.0	3.5	8.3	--	--	--	--														
2. PEN	3.5	9.5	14.7	15.5	--	--	--	--														
3. PHHO	3.8	11.0	4.7	13.0	14.5	15.9	14.7	15.9														
4. PHLO	4.0	11.0	4.5	13.0	14.5	15.9	14.5	15.9														
5. POFE	4.0	12.0	4.5	12.4	14.0	15.5	14.3	15.9														
6. POSE	14.0	8.0	14.5	9.0	16.0	15.9	15.9	15.9														
7. SIHY	3.5	7.5	3.8	8.0	14.2	15.5	14.3	15.6														
8. SILI	4.0	10.0	--	--	--	--	--	--														
9. SYOC	3.7	0	--	--	--	--	--	--														
10. TECA	3.0	5.0	3.3	5.1	--	--	4.5	9.0														
11. TRI	4.0	15.0	4.2	15.9	14.0	--	14.3	15.9														
12. UMB	4.0	12.0	4.2	15.9	--	15.9	--	--														
13. ZYVE	4.8	15.9	--	--	15.9	--	15.9	15.9														
14.																						
15.																						
16.																						
17.																						
18.																						
19.																						
20.																						
21.																						
22.																						

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Demer Type-site ARTR-AGSM

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	26 June 1973		24 July 1973		2 Aug. 1973		9 Nov. 1973		30 Nov. 1973		27 Dec. 1973											
1. AGSM	3.6	9.5	14.0	11.5	14.3	13.5	16.6	15.5	16.8	15.8	17.0	17.0										
2. AGSP	4.1	10.2	14.0	13.5	14.5	15.0	16.8	15.9	16.6	15.9	17.0	17.0										
3. ARHO	--	--	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	--	--										
4. ARTR	3.0	0	4.0	5.0	3.6	5.2	14.6	13.8	14.7	15.7	14.8	15.8										
5. BOGR	2.8	0	4.0	0	4.2	8.0	16.7	15.9	16.8	15.5	16.9	15.5										
6. BRTE	--	12.6	14.9	13.9	15.9	15.9	15.9	15.9	16.5	15.9	16.9	16.9										
7. DEGE	--	--	14.5	13.0	--	--	--	--	17.0	0	17.0	0										
8. DEPI	--	12.2	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	--	--										
9. ERPU	--	--	--	--	--	--	--	--	17.0	0	--	--										
10. FEOC	--	--	15.9	15.9	15.9	15.9	16.9	15.9	16.9	15.9	16.9	16.9										
11. LARE	--	13.0	--	--	--	--	--	--	--	--	--	--										
12. OPPO	--	5.0	4.0	11.5	4.5	12.0	14.5	0	14.6	15.9	14.9	15.9										
13. ORHY	3.8	11.0	14.2	15.9	14.5	15.9	--	--	--	--	17.0	17.0										
14. PLSP	--	11.6	14.8	15.9	15.9	15.9	15.9	15.9	15.9	15.9	--	--										
15. POSE	14.5	12.2	15.9	15.9	15.9	15.9	16.9	15.9	16.8	15.9	17.0	17.0										
16. SAKA	2.0	0	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	--	--										
17. SIHY	4.6	11.5	14.5	13.9	14.5	15.0	16.8	15.9	16.7	15.9	17.0	17.0										
18. STCO	4.5	12.7	14.0	13.5	14.2	13.9	16.8	15.9	16.8	15.9	17.0	17.0										
19. VUOC	--	13.0	--	--	--	--	--	--	--	--	--	--										
20.																						
21.																						
22.																						

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Farson Type-site ARTR-AGSM

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	27 June 1973		2 July 1973		17 July 1973		31 July 1973		1 Aug. 1973		15 Aug. 1973		5 Sept. 1973		15 Oct. 1973		30 Nov. 1973		28 Dec. 1973			
1. AGSM	4.2	0	4.2	0	4.3	8.0	14.0	11.0	14.4	11.5	14.0	12.5	14.2	13.0	16.2	15.0	17.0	15.6	17.0	15.8		
2. ARHO	3.5	11.5	3.7	12.0	4.5	13.0	4.5	15.9	4.8	15.9	4.5	15.9	4.7	15.9	16.5	15.9	16.7	15.9	--	--		
3. ARTR	3.0	0	3.3	5.0	3.4	5.3	3.3	5.1	3.8	5.4	3.7	5.5	3.8	7.0	4.5	13.0	14.7	15.8	14.8	15.9		
4. ASPU	4.5	15.5	--	--	4.5	15.9	--	--	4.8	15.9	14.0	15.9	--	--	--	--	17.0	0	--	--		
5. ASSP	--	--	--	--	--	--	--	--	--	--	--	--	14.0	15.9	16.0	15.9 -8.0	--	--	--	--		
6. ATCO	4.0	5.0	4.5	5.2	4.6	8.0	4.0	0	4.7	10.5	4.8	11.8	4.9	11.9	14.0	15.0	14.6	15.5	14.8	15.9		
7. CAEL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.0	15.9	14.9	15.9	--	--		
8. CHFR	--	--	--	--	--	--	--	--	--	--	4.0	7.0	--	--	--	--	--	--	--	--		
9. CHVI	3.0	0	4.0	5.0	4.2	5.3	4.5	5.2	4.3	6.0	4.5	8.0	14.0	8.5	14.7	15.3	17.0	0	17.0	17.0		
10. EROV	4.6	7.0	4.6	7.5	4.5	11.0	4.5	15.5	4.6	15.9	4.8	15.9	14.0	15.9	16.0	15.9	14.5	15.9	--	--		
11. EULA	3.0	0	3.5	5.0	3.6	5.2	--	--	4.0	6.0	14.0	10.0	14.1	11.0	14.2	13.5	14.5	15.9	14.8	15.9		
12. GRSP	4.5	0	4.8	0	4.9	0	--	--	4.9	0	14.5	0	14.4	0	14.9	0	17.0	0	17.0	17.0		
13. HAAC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14.9	15.9	17.0	0	--	--		
14. OPPO	4.0	5.0	4.0	5.1	4.2	5.8	4.5	12.0	4.5	9.0	4.7	10.0	14.0	11.0	14.9	15.9	14.8	15.9	14.8	0		
15. ORHY	3.8	10.5	3.8	10.8	3.9	11.5	14.0	12.0	14.5	12.5	14.0	13.0	14.2	BOOT 13.5	16.1	15.0	17.0	0	17.0	DIED IN BOOT		
16. PHHO	4.0	15.0	4.1	15.0	4.5	15.9	14.0	15.9	14.8	15.9	14.9	15.9	14.9	15.9	16.0	15.9	17.0	0	17.0	17.0		
17. POSE	4.3	11.0	--	--	14.5	13.5	16.0	15.9	14.6	13.8	14.9	15.3	--	--	16.8	15.9	16.8	15.9	--	--		
18. SIHY	3.6	9.0	3.7	9.5	3.8	10.0	--	--	14.5	13.8	14.2	15.5	14.8	15.6	16.8	15.9	16.8	15.9	--	--		
19. SILI	4.9	11.0	4.9	11.8	--	--	--	--	--	--	14.2	15.9	--	--	--	--	15.9	15.9	--	--		
20. SPCO	--	--	--	--	--	--	--	--	3.5	0	4.8	0	14.0	0	--	--	--	--	--	--		
21. STCO	4.2	5.0	4.2	6.0	4.5	11.0	14.0	13.5	14.6	12.5	14.1	15.9	14.2	15.4	16.1	15.5	16.9	15.8	--	--		
22. TESP	--	--	--	--	14.9	15.9	--	--	4.9	15.9	14.3	15.9	14.5	15.9	14.9	15.9	--	--	--	--		

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Horse Creek Type-site ARNO-AGSP

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	26 June 1973		23 July 1973		2 Aug. 1973		10 Nov. 1973		30 Nov. 1973		27 Dec. 1973											
1. AGSP	4.0	9.5	4.5	10.0	14.3	15.5	16.7	15.9	16.5	15.9	17.0	17.0										
2. ARLO	4.1	9.5	--	--	--	--	--	--	14.9	15.8	--	--										
3. ARNO	3.3	0	3.5	5.0	3.6	5.4	14.7	15.5	14.7	15.8	14.7	15.9										
4. ARTR	3.3	0	3.5	5.0	3.6	5.3	14.6	15.3	14.5	15.6	14.8	15.9										
5. ASPU	4.8	15.9	--	--	14.5	15.9	--	--	14.6	15.9	--	--										
6. BRTE	--	11.8	14.9	15.0	15.9	15.9	15.9	15.9	15.9	15.9	--	--										
7. CANU	--	8.5	--	--	15.9	15.9	--	--	--	--	--	--										
8. CIR	--	10.0	15.9	15.9	15.9	15.9	17.0	0	17.0	0	--	--										
9. CRBR	--	7.0	--	--	14.9	15.5	17.0	0	17.0	NEW PLANT 0	17.0	--										
10. DEPI	--	11.0	15.9	15.9	15.9	15.9	--	--	--	--	--	--										
11. EULA	4.5	7.0	4.5	9.0	4.8	11.5	14.8	15.9	14.9	15.9	--	--										
12. GACO	--	11.8	--	--	--	--	--	--	--	--	--	--										
13. GUSA	3.3	0	4.0	5.0	4.5	5.1	16.8	15.9	16.8	15.9	16.8	15.9										
14. HAAC	14.0	15.5	14.5	15.9	15.9	15.9	14.7	15.9	16.5	15.9	--	--										
15. OPPO	--	6.0	4.5	10.0	4.7	11.5	14.5	0	14.6	0	14.8	0										
16. ORHY	4.1	11.6	14.0	12.0	14.5	13.5	--	--	--	--	--	--										
17. PHHO	4.9	15.0	14.5	15.9	14.5	15.9	14.8	15.9	14.8	15.9	14.8	15.9										
18. POSE	4.9	11.3	14.9	15.9	15.9	15.9	16.8	15.9	16.5	15.9	17.0	17.0										
19. RHTR	3.5	0	--	--	--	--	--	--	17.0	0	--	--										
20. SAKA	2.0	0	--	--	--	--	15.9	15.9	15.9	15.9	--	--										
21. SIHY	4.1	9.5	14.0	11.0	14.5	13.5	--	--	--	--	--	--										
22. TRDU	--	5.5	--	--	--		--	--	--	--	--	--										

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Horse Creek Type-site ARNO-AGSP

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	26 June 1973		23 July 1973		2 Aug. 1973		10 Nov. 1973		30 Nov. 1973		27 Dec. 1973											
1. VIVA	4.8	15.0	--	--	15.9	15.9	--	--	14.5	15.9	--	--										
2. YUGL	4.9	0	--	--	--	--	--	15.9	14.7	15.9	14.7	15.9										
3. ZYVE	--	11.8	15.9	15.9	15.9	15.9	--	--	--	--	--	--										
4.																						
5.																						
6.																						
7.																						
8.																						
9.																						
10.																						
11.																						
12.																						
13.																						
14.																						
15.																						
16.																						
17.																						
18.																						
19.																						
20.																						
21.																						
22.																						

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Horse Creek Type-site ARTR-AGSM

SPECIES IDENTIFICATION		VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
		26 June 1973		23 July 1973		2 Aug. 1973		10 Nov. 1973		30 Nov. 1973		27 Dec. 1973											
1.	AGSM	4.0	9.0	4.7	10.0	14.1	11.5	16.7	13.9	16.8	15.0	17.0	15.0										
2.	ARTR	3.4	0	3.7	5.0	3.6	5.3	14.7	13.9	14.7	15.7	14.8	15.9										
3.	BRCO	--	11.0	14.0	13.5	14.9	13.9	--	--	15.9	15.7	15.9	15.9										
4.	BRTE	--	12.8	14.0	13.5	15.9	15.9	--	--	15.9	15.9	15.9	15.9										
5.	CAAN	--	11.5	--	--	15.9	15.9	--	--	17.0	0	17.0	17.0										
6.	CRE	14.0	11.2	--	--	--	--	--	--	17.0	0	--	--										
7.	DEPI	--	6.0	15.9	15.9	15.9	15.9	--	--	--	--	--	--										
8.	ERPU	--	8.0	14.5	15.0	15.9	15.9	--	--	17.0	0	--	--										
9.	EULA	3.8	0	4.3	8.0	4.5	10.5	--	--	14.5	15.9	--	--										
10.	GUSA	3.3	0	4.0	5.5	4.5	5.5	--	--	16.8	15.8	16.8	15.9										
11.	LARE	--	8.0	14.9	15.0	15.9	15.9	--	--	--	--	--	--										
12.	MACA	--	8.0	14.5	15.5	15.9	15.9	--	--	--	--	--	--										
13.	OPPO	--	7.0	3.5	10.0	4.0	12.0	--	--	14.5	0	14.7	0										
14.	PHHO	14.0	15.0	15.9	15.9	15.9	15.9	17.0	0	16.8	15.9	16.8	15.9										
15.	SIHY	4.0	11.0	--	--	--	--	--	--	--	--	--	--										
16.	SPCO	3.5	0	4.8	0	14.0	15.9	14.9	15.9	--	--	--	--										
17.	STCO	--	--	--	--	14.5	13.5	--	--	--	--	--	--										
18.	VIVA	4.8	15.0	--	--	--	--	--	--	--	--	--	--										
19.																							
20.																							
21.																							
22.																							

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Mesa Antelope Type-site ARTR-AGSM

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	27 June 1973		2 July 1973		17 July 1973		1 Aug. 1973		15 Aug. 1973		5 Sept. 1973		14 Oct. 1973									
1. AGSM	3.3	5.0	3.8	5.0	3.9	--	4.4	--	14.2	--	14.2	--	14.2	15.9								
2. ARHO	4.5	9.0	4.6	10.0	14.9	13.0	--	--	15.9	15.9	--	--	--	--								
3. ARTR	3.8	0	3.8	5.0	3.9	5.3	4.2	5.3	3.4	5.5	4.0	7.0	4.1	15.0								
4. ASSP	3.5	0	--	--	--	--	--	--	--	--	--	--	--	--								
5. ANTU	--	--	--	--	--	--	--	--	4.2	10.2	4.5	--	--	--								
6. CAEL	4.0	10.0	4.0	10.5	4.2	11.8	4.5	12.0	4.5	--	14.2	12.5	16.0	15.0								
7. CHVI	2.5	0	3.2	5.0	3.8	5.2	4.3	5.6	4.0	8.0	14.0	8.5	14.5	13.8								
8. ERCA	--	--	--	--	3.0	11.8	4.7	13.0	14.0	15.9	14.1	15.9	--	--								
9. AROV	3.8	10.0	3.9	10.4	3.9	13.0	--	--	14.0	15.9	--	--	14.2	15.9								
10. EULA	3.0	0	3.2	5.0	3.8	5.0	4.5	8.0	14.0	11.5	14.1	11.6	14.7	13.0								
11. HAAC	--	--	--	--	--	--	4.5	15.9	4.8	15.9	14.1	15.9	--	--								
12. LEPU	--	--	4.0	11.8	4.1	11.9	--	--	14.3	15.9	--	--	--	--								
13. MACA	3.5	0	3.8	0	3.9	6.0	3.5	6.5	4.0	8.0	14.0	9.0	14.5	15.9								
14. OPPO	--	--	3.0	5.0	3.5	5.5	4.5	8.0	4.0	11.0	4.5	11.5	4.6	15.9								
15. ORHY	3.0	5.8	3.5	6.5	3.7	10.5	--	--	14.0	15.5	BOOT 14.1	--	14.5	15.9								
16. PELA	--	--	--	--	3.8	8.0	--	--	--	--	--	--	--	--								
17. PHHO	4.4	12.8	4.4	12.9	4.9	13.0	14.8	15.9	15.9	15.9	15.9	15.9	16.2	15.9								
18. POSE	4.2	9.5	4.9	10.5	14.9	12.0	14.9	15.2	14.9	15.7	14.9	15.7	16.5	15.9								
19. SIHY	--	--	--	--	4.0	5.8	4.5	13.0	14.0	15.9	14.5	15.5	16.5	15.0								
20. SILI	3.0	7.0	3.3		3.9	15.9	4.8	15.9	4.5	15.9	--	--	--	--								
21. STCO	3.8	5.0	3.9	5.8	4.0	11.5	4.9	15.9	14.0	15.0	BOOT 14.5	15.5	16.0	15.9								
22. TRI	3.8	11.8	4.2	12.2	4.3	12.9	--	--	15.9	15.9	--	--	--	--								

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Owl Draw Type-site ARNP-ARTR-AGSM-AGSP

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	16 July 1973		3 Aug. 1973																			
1. AGSM	4.2	9.0	14.1	12.8																		
2. AGSP	4.4	4.5	14.2	15.0																		
3. ALTE	15.9	15.9	15.9	15.9																		
4. ARNO	3.1	5.0	3.6	5.4																		
5. ARNU	4.0	9.5	--	--																		
6. ARTR	3.2	5.0	4.0	5.5																		
7. CANU	3.5	8.0	14.9	10.5																		
8. DEBI	14.0	12.0	15.9	15.9																		
9. GUSA	4.0	5.0	6.0	5.4																		
10. HAAC	--	--	14.0	15.9																		
11. JUOS	3.5	0	3.7	0																		
12. JUSC	3.0	0	3.5	0																		
13. KOLR	4.0	11.0	14.2	15.9																		
14. LELU	4.0	11.0	--	--																		
15. LERE	14.0	6.0	14.9	--																		
16. MAGR	14.0	13.5	--	--																		
17. POFE	14.0	13.5	15.9	15.9																		
18. POSE	14.0	13.5	15.9	15.9																		
19. VIAM	14.0	15.9	15.9	15.9																		
20.																						
21.																						
22.																						

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Shoshoni Ant #7 Type-site ARTR-AGSM

SPECIES IDENTIFICATION		27 June 1973		12 July 1973		1 Aug. 1973		7 Aug. 1973		21 Aug. 1973		6 Sept. 1973		9 Nov. 1973		30 Nov. 1973		26 Dec. 1973					
		VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
1.	AGSM	3.9	8.8	4.2	9.5	4.2	10.5	14.2	12.0	14.5	13.5	14.5	13.6	16.8	13.9	17.0	13.9	17.0	13.9				
2.	ALTE	14.0	--	15.9	15.9	--	--	15.9	15.9	15.9	15.9	--	--	17.0	--	--	--	--	--				
3.	ARTR	3.7	--	3.7	5.0	3.9	5.2	3.8	5.5	3.8	5.6	3.8	7.0	14.3	15.1	14.7	15.7	14.8	15.9				
4.	ASPU	4.0	13.5	4.3	13.9	--	--	14.5	15.9	15.9	15.9	--	--	17.0	--	--	--	--	--				
5.	BOGR	2.5	5.0	3.0	6.0	3.8	8.0	3.5	9.0	4.0	11.0	14.3	13.0	16.9	15.1	16.9	15.2	17.0	15.3				
6.	BRTE	--	12.8	15.9	15.9	--	--	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	--	--				
7.	ERPU	--	8.0	4.0	13.0	--	--	14.1	15.9	14.3	15.9	14.4	15.9	14.5	15.9	14.8	15.9	--	--				
8.	EULA	2.8	--	--	--	--	--	14.3	11.5	14.3	12.0	--	--	--	--	--	--	--	--				
9.	LARE	--	11.9	--	--	--	--	15.9	15.9	15.9	15.9	--	--	--	--	--	--	--	--				
10.	LEDE	--	11.5	15.9	15.9	--	--	15.9	15.9	15.7	15.0	--	--	17.0	--	--	--	--	--				
11.	LUPU	--	9.0	14.0	9.5	14.0	12.0	--	--	--	--	--	--	--	--	--	--	--	--				
12.	MACA	--	7.5	4.5	9.5	--	--	--	--	--	--	14.2	11.0	--	--	--	--	--	--				
13.	OPPO	3.8	5.2	4.5	10.0	4.0	11.8	4.9	12.0	14.0	15.7	14.5	--	14.5	--	14.8	--	14.9	--				
14.	ORHY	3.5	11.0	4.5	13.0	4.0	13.0	14.2	15.9	14.3	15.9	14.3	15.5	16.9	15.6	17.0	15.7	17.0	17.0				
15.	PHHO	4.0	15.5	14.0	15.9	4.3	15.9	14.5	15.9	14.7	15.9	14.7	15.9	14.8	15.9	14.8	15.9	17.0	17.0				
16.	PLPA	--	7.0	14.0	12.0	14.9	13.7	15.9	15.9	15.9	15.9	--	--	17.0	--	17.0	--	--	--				
17.	POSE	14.0	12.2	15.9	15.7	14.9	13.5	15.9	15.9	15.9	15.7	14.9	15.5	16.8	15.9	16.8	15.9	17.0	17.0				
18.	SIHY	3.8	10.5	4.5	13.5	4.2	12.0	14.3	15.	14.3	15.5	14.9	15.7	16.7	15.7	--	--	17.0	17.0				
19.	SPCO	3.8	5.0	4.0	10.0	4.0	--	14.1	15.9	14.2	15.9	14.4	15.9	--	--	14.8	15.9	--	--				
20.	STCO	4.0	11.0	4.5	12.0	4.0	13.0	14.1	15.5	14.3	15.7	14.4	13.5	16.8	15.9	16.8	15.9	17.0	17.0				
21.	UMB	--	15.9	--	--	--	--	15.9	15.9	--	--	--	--	--	--	--	--	--	--				
22.																							

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Sweetwater Type-site ARNO-ARTR-AGSM

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	29 June 1973		12 July 1973		1 Aug. 1973		5 Sept. 1973		9 Nov. 1973		30 Nov. 1973		28 Dec. 1973									
1. AGSM	4.1	7.0	4.5	9.0	14.1	12.0	14.2	13.0	16.8	15.5	17.0	15.1	17.0	15.8								
2. ARCO	4.8	11.9	13.9	15.9	12.0	--	14.2	15.9	17.0	--	--	--	--	--								
3. ARFR	3.5	--	3.5	--	3.2	5.1	4.0	8.0	--	--	14.5	13.5	--	--								
4. ARNO	3.3	--	3.6	5.0	3.5	5.3	3.8	6.0	14.5	15.8	14.7	15.9	14.8	15.9								
5. ARTR	3.1	--	3.1	--	3.1	5.1	3.8	7.0	14.3	13.5	14.6	15.6	14.8	15.8								
6. ASPU	4.0	7.0	4.5	15.0	14.0	15.9	--	--	14.9	15.9	--	--	--	--								
7. ASSP	4.5	7.2	4.5	9.5	--	--	14.0	15.9	14.5	15.9	14.9	15.9	17.0	17.0								
8. CAFI	4.5	12.0	4.5	13.0	4.9	15.9	14.3	15.9	14.8	15.9	14.8	15.9	--	--								
9. CANU	4.5	9.0	14.9	15.0	17.0	--	--	--	--	--	17.0	--	--	--								
10. CHDO	--	--	--	--	--	--	4.5	--	--	--	--	--	--	--								
11. CHNA	--	--	--	--	--	--	4.0	6.0	--	--	14.8	15.8	--	--								
12. CHVI	3.5	--	3.5	5.0	3.7	5.8	4.5	6.0	14.9	15.8	14.9	15.9	17.0	17.0								
13. COPA	4.0	8.0	4.0	11.0	4.5	15.9	4.6	15.9	14.2	15.9	14.5	15.9	--	--								
14. CRBR	4.6	7.5	--	--	--	--	--		--	--	--	--	--	--								
15. CRFL	4.7	8.0	4.7	9.0	14.0	13.5	14.1	15.5	14.8	15.9	14.9	15.9	--	--								
16. CRNA	--	--	3.5	--	--	--	--		--	--	--	--	--	--								
17. DEGE	4.6	9.0	14.0	15.0	--	--	14.2	15.9	14.5	15.9	14.7	15.9	--	--								
18. ERCE	--	--	--	--	--	--	4.5	13.5	14.0	15.6	14.2	--	--	--								
19. ERLA	--	--	--	--	--	--	--	--	--	--	--	--	15.9	15.9								
20. EROV	4.8	9.5	14.0	15.9	14.3	15.9	14.4	15.9	14.7	15.9	14.7	15.9	14.8	15.9								
21. ERPU	4.6	8.0	14.0	15.9	14.3	15.9	--	--	17.0	--	17.0	--	17.0	17.0								
22. KOCR	4.5	8.5	4.7	12.0	14.5	15.9	16.5	15.0	16.8	15.9	17.0	--	17.0	17.0								

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Sweetwater Type-site ARNO-ARTR-AGSM

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	29 June 1973		12 July 1973		1 Aug. 1973		5 Sept. 1973		9 Nov. 1973		30 Nov. 1973		28 Dec. 1973									
23. LEPU	4.0	7.8	4.5	9.5	4.9	15.9	14.2	15.9	14.9	15.9	14.9	15.9	17.0	17.0								
24. MACA	--	--	4.0	9.5	--	--	--	--	--	--	--	--	--	--								
25. OPPO	3.0	5.0	3.2	6.0	4.0	10.0	4.2	11.0	14.3	--	14.4	--	--	--								
26. ORHY	4.5	11.0	4.3	12.5	14.0	13.5	14.2	15.0	17.0	--	17.0	--	17.0	17.0								
27. OXLA	--	--	--	--	--	--	14.3	15.9	--	--	14.9	15.9	17.0	17.0								
28. PECL	4.5	7.5	4.5	11.5	14.0	15.9	14.2	15.9	--	--	14.6	15.9	17.0	17.0								
29. PHHO	4.2	6.8	4.8	15.0	14.0	15.9	14.9	15.9	16.5	15.9	16.8	15.9	17.0	17.0								
30. POSE	4.7	11.8	14.9	15.9	15.9	15.9	14.9	15.5	16.8	15.9	17.0	--	17.0	19.0								
31. PSTE	--	--	--	--	--	--	4.5	--	--	--	17.0	--	17.0	19.0								
32. SPCO	--	--	--	--	--	--	14.2	--	14.8	15.9	17.0	--	--	--								
33. STCO	4.3	10.0	4.5	11.0	14.0	13.5	14.1	15.0	16.8	15.9	17.0	--	17.0	17.0								
34. TECA	--	--	3.5	--	4.0	8.0	14.0	8.5	14.9	15.8	14.9	15.8	14.9	15.8								
35. ZYVE	4.8	12.0	17.0	--	--	--	--	--	--	--	--	--	--	--								

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Red Wash #2 Type-site ARTR-AGSM-AGSP

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	28 June 1973		30 July 1973																			
1. AGSM	3.5	6.0	14.0	11.5																		
2. AGSP	4.2	5.8	14.0	11.5																		
3. ALTE	4.5	12.0	14.9	15.9																		
4. ARA	4.5	9.9	15.9	15.9																		
5. ARHO	3.5	7.0	14.0	15.9																		
6. ARTR	3.1	0	3.5	5.0																		
7. ASMO	2.8	0	—	—																		
8. ASPU	4.5	11.0	14.0	15.9																		
9. AST	4.5	9.9	14.9	15.9																		
10. CHDO	3.5	5.7	4.0	8.0																		
11. CHNA	3.5	0	3.5	5.1																		
12. CHVI	3.5	5.0	3.5	5.2																		
13. CRFL	3.8	7.0	—	—																		
14. ERAS	4.9	10.8	—	—																		
15. ERFL	3.8	5.0	—	—																		
16. ERMI	—	—	—	—																		
17. EROV	4.0	9.0	14.0	13.5																		
18. GIAG	3.8	9.0	—	—																		
19. GRSP	3.8	10.0	—	—																		
20. HAAC	3.8	8.5	—	—																		
21. LEPU	3.9	8.0	4.5	15.9																		
22. OPPO	3.5	0	4.0	0																		

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Red Wash #2 Type-site ARTR-AGSM-AGSP

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	28 June 1973		30 July 1973																			
1. ORHY	3.0	5.7	4.5	11.0																		
2. PEN	4.0	7.0	4.5	11.0																		
3. PHHO	4.5	15.9	14.5	15.9																		
4. POSE	4.5	10.5	14.9	15.9																		
5. SILI	4.3	9.9	14.9	15.9																		
6. STCO	3.5	5.3	14.0	12.5																		
7. TECA	3.5	5.0	3.5	7.0																		
8.																						
9.																						
10.																						
11.																						
12.																						
13.																						
14.																						
15.																						
16.																						
17.																						
18.																						
19.																						
20.																						
21.																						
22.																						

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Upper Government Draw Type-site ARTR-AGSM

SPECIES IDENTIFICATION	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR	VEG	REPR
	17 July 1973		1 Aug 1973		20 Aug. 1973																	
1. AGSM	4.3	10.0	14.1	12.5	14.3	13.5																
2. ALTE	15.9	15.9	15.9	15.9	15.9	15.9																
3. ARTR	3.5	5.0	3.5	5.2	3.7	5.6																
4. CAS	4.9	9.5	14.9	15.5	15.9	15.9																
5. CHVI	3.5	5.0	3.8	5.3	4.0	8.5																
6. CRE	4-14.9	9-15.0	14.5	15.9	15.9	15.9																
7. ERI[2]	--	--	14.0	15.9	--	--																
8. EULA	4.5	9.0	--	--	--	--																
9. KOCR	4.3	11.0	14.5	15.9	14.6	15.9																
10. OPPO	3.8	10.0	4.5	12.0	4.5	12.5																
11. PHHO	14.0	15.9	14.2	15.9	14.7	15.9																
12. POSE	15.9	15.9	15.9	15.9	15.9	15.9																
13. SIHY	4.5	13.0	--	--	--	--																
14. SPCO	14.0	11.5	14.2	15.9	14.3	15.9																
15. STCO	4.5	11.5	14.1	13.5	14.2	15.7																
16. UMB	15.9	15.0	--	--	--	--																
17. VIAM	14.0	15.9	14.7	15.9	--	--																
18.																						
19.																						
20.																						
21.																						
22.																						

TABLE IV. Permanently located principle species.

Agropyron smithii Study Area Bud Kimball Date 17 July 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	2.4	0	.2	17.5	0	0	1
2.	14.0	0	.2	19.2	0	0	1
3.	14.9	0	.2	35.7	0	0	2
4.	2.7	0	.2	18.0	0	0	1
5.	3.5	0	.1	18.0	0	0	3
6.	14.2	11.0	.2	26.8	23.0	7	1
7.	3.6	0	.2	16.5	0	0	3
8.	14.0	11.5	.2	24.5	18.5	5	2
9.	14.0	0	.2	35.6	0	0	1
10.	2.8	0	.1	13.7	0	0	3
11.	3.5	0	.3	20.0	0	0	2
12.	3.4	0	.2	18.3	0	0	1
13.	14.0	11.0	.3	29.3	22.5	5	1
14.	4.1	0	.3	19.0	0	0	1
15.	14.0	0	.2	22.5	0	0	1
16.	2.4	0	.3	16.2	0	0	1
17.	2.4	0	.3	20.4	0	0	1
18.	4.1	0	.3	18.2	0	0	1
19.	3.2	0	.4	20.5	0	0	1
20.	2.9	0	.2	22.8	0	0	1

Table IV. (continued)

Agropyron smithii Study Area Bud Kimball Date 2 August 1973

PLANT NO.	PHENO. STAGE SCORE VEG.	REPR.	MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
1.	14.2		.3	17.4			1
2.	14.6		.2	21.9			1
3.	14.4		.2	34.5			1
4.	14.3		.3	26.0			1
5.	14.3		.2	15.9			3
6.	14.2	11.8	.3	28.1	24.2	7	1
7.	14.4		.3	16.4			3
8.	14.3	12.7	.2	24.2	18.0	6	2
9.	14.3	5.0	.2	35.8			1
10.	14.3		.3	13.4			3
11.	14.3		.3	20.2			2
12.	14.3		.3	17.8			1
13.	14.3	15.0	.4	30.1	23.0	5	1
14.	14.2		.4	19.2			1
15.	14.5		.3	20.9			1
16.	14.2		.3	17.0			1
17.	14.3		.3	20.3			1
18.	14.2		.4	18.3			1
19.	14.3		.4	20.8			1
20.	14.3		.2	23.7			3

Table IV. (continued)

Artemisia tridentata   Study Area Bud Kimball   Date 17 July 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.4	5.0	21.5	43.5	14.5	29.0	4	20	1.0	4.2
2.	14.0	0	8.0	21.0	10.0	11.0	2	0	.5	0
3.	3.4	5.0	25.5	49.5	17.0	33.3	4	10	1.0	6.0
4.	3.4	0	9.8	19.3	11.0	15.1	2	0	1.7	0
5.	3.4	5.0	38.5	57.0	26.5	41.8	4	20	1.5	4.0
6.	3.4	5.0	18.3	48,9	17.0	33.0	5	25	2.2	3.0
7.	14.0	0	11.9	9.0	6.0	7.5	2	1	1.5	0
8.	3.4	5.0	27.3	71.8	54.0	62.9	5	30	1.0	5.1
9.	3.1	0	11.9	29.7	16.0	22.8	3	10	.5	0
10.	3.4	0	14.5	26.0	16.5	21.3	3	2	1.5	0
11.	3.4	5.0	20.0	32.0	20.0	26.0	3	1	2.0	4.5
12.	3.2	0	9.5	11.7	8.0	9.9	2	10	1.0	0
13.	14.0	0	8.7	9.5	6.3	7.9	2	5	1.0	0
14.	14.0	0	10.7	9.0	3.5	6.3	2	2	.5	0
15.	3.4	5.0	32.0	42.0	20.0	31.0	3	5	1.5	5.8
16.	3.4	0	25.9	57.0	30.0	43.5	5	25	2.0	0
17.	3.4	5.0	26.3	46.0	25.0	35.5	4	15	1.0	4.0
18.	3.5	5.0	50.8	103.2	72.7	87.9	4	10	3.0	8.0
19.	3.4	5.0	48.6	84.7	30.0	57.4	4	20	3.0	8.0
20.	3.4	5.0	13.5	21.5	11.5	16.5	2	2	2.0	7.0

Table IV. (continued)

Artemisia tridentata Study Area Bud Kimball Date 2 August 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.6	5.4	24.0	44.7	21.8	33.3	4	20	2.2	7.0
2.	3.5	0	8.4	13.0	9.0	11.0	2	0	1.0	0
3.	3.6	5.4	24.0	49.0	16.0	32.7	4	10	1.0	6.0
4.	3.4	0	9.9	19.0	12.2	15.6	2	0	1.5	0
5.	3.6	5.4	38.6	76.6	27.4	52.0	4	20	2.0	5.0
6.	3.6	5.4	18.5	47.7	23.1	35.4	5	25	2.0	5.0
7.	3.5	0	11.4	9.8	4.5	7.2	2	1	2.0	0
8.	3.7	5.4	28.6	65.4	37.0	51.2	5	30	2.0	6.5
9.	3.5	0	15.2	32.6	15.5	24.1	3	10	.5	0
10.	3.6	0	16.5	30.2	15.3	22.75	3	2	1.5	0
11.	3.6	5.4	20.2	22.0	19.3	26.15	3	1	2.5	4.5
12.	3.4	0	9.0	12.3	7.5	9.9	2	10	.5	0
13.	3.6	0	11.3	9.0	6.3	7.7	2	5	1.0	0
14.	3.5	0	11.2	9.7	3.4	6.6	2	2	.5	0
15.	3.6	5.4	32.5	40.3	19.3	29.8	3	5	4.0	8.0
16.	3.6	0	25.0	52.5	30.0	41.2	5	25	2.0	0
17.	3.6	5.4	33.4	45.6	24.2	34.9	4	15	1.0	4.5
18.	3.7	5.5	48.5	104.5	57.7	81.1	4	10	5.0	11.8
19.	3.6	5.5	50.9	84.0	28.3	56.1	4	20	4.0	10.0
20.	3.6	5.4	16.2	22.3	13.1	17.7	2	2	3.0	7.0

Table IV. (continued)

Agropyron spicatum Study Area Cedar Mountain Date 28 June 1973

PLANT No.	PHENO. STAGE SCORE		CLUMP			MAX. LEAF WIDTH	MAX. LEAF HGHT.	MAX. SPIKE HGHT.	NOS. SPIKELETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
	VEG.	REPR.	LGTH.	WIDTH	DIAM.							
			cm.	cm.	cm.	cm.	cm.	cm.				
1.	3.8	5.0	20.0	12.0	16.0	.3	29.5	0	0	0		seedling
2.	3.8	5.0	--	--	.1	.2	13.2	0	0	0		seedling
3.	4.2	0	--	--	.4	.2	14.8	0	0	0		young
4.	4.6	5.0	17.0	13.0	15.0	.3	29.6	0	0	0		mature-dense
5.	4.6	6.1	24.0	9.0	16.5	.3	35.0	37.0	0	19		mature-dense
6.	4.5	5.9	39.0	17.0	28.0	.3	38.0	45.5	0	7		mature-intermediate
7.	4.2	6.5	30.0	16.0	23.0	.2	20.8	27.0	0	1		mature-intermediate
8.	4.1	5.0	9.0	3.0	6.0	.2	23.5	0	0	0		young-dense
9.	4.3	7.0	12.0	4.5	8.0	.2	33.0	41.0	0	3		mature-intermediate
10.	4.1	5.8	17.0	13.0	15.0	.3	28.5	26.0	0	13		mature-intermediate
11.	4.3	7.0	--	--	1.0	2.	31.0	39.0	6	1		young-dense
12.	4.4	0	16.0	13.0	14.5	.2	16.0	0	0	0		old-decadant
13.	4.0	0	--	--	.2	.2	5.0	0	0	0		young
14.	4.5	0	--	--	.4	.3	23.0	0	0	0		young
15.	4.7	7.5	4.0	3.0	3.5	.3	38.0	45.0	7	2		intermediate-intermediate
16.	4.8	8.5	7.0	3.0	5.0	.2	37.0	47.0	7	15		mature-dense
17.	4.2	5.8	26.0	5.0	15.5	.2	30.0	39.0	0	24		mature-dense
18.	4.5	5.8	18.0	17.0	17.5	.3	28.0	34.0	0	17		mature-sparse
19.	4.8	7.5	15.0	13.0	14.0	.3	42.0	53.0	7	31		mature-sparse
20.	4.4	5.8	5.8	8.0	9.5	.3	31.0	34.0	6	29		intermediate-dense

Table IV. (continued)

Agropyron spicatum Study Area Cedar Mountain Date 30 July 1973

PLANT No.	PHENO. STAGE SCORE		CLUMP			MAX. LEAF WIDTH cm.	MAX. LEAF HGHT. cm.	MAX. SPIKE HGHT. cm.	NOS. SPIKE-LETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
	VEG.	REPR.	LGTH. cm.	WIDTH cm.	DIAM. cm.							
1.	14.0	11.5			16.0	.3	28.0	32.7	4	2		
2.	14.0	0			.1	.2	12.4	0	0	0		
3.	14.0	--			.5	.3	18.2	24.3	0	0		spikes eaten or broken off
4.	14.0	0			15.0	.3	35.0	0	0	0		
5.	14.0	12.5			16.5	.3	44.0	41.0	5	13		2 spikes eaten off
6.	14.0	11.7			29.5	.3	33.9	44.0	5	23		
7.	14.0	12.0			23.0	.3	25.1	27.6	3	4		maturing in boot
8.	14.0	--			6.0	.2	19.3	0	9	--		maturing in boot
9.	14.0	11.5			8.5	.2	26.6	34.8	5	3		
10.	14.0	11.7			27.0	.2	29.6	27.0	6	23		maturing in boot
11.	14.0	13.5			9.0	.3	34.5	48.0	6	1		
12.	14.0	0			14.5	.2	19.0	0	9	0		
13.	4.8	0			.2	.1	4.6	0	9	0		
14.	14.0	0			2.0	.3	23.0	0	9	0		
15.	14.0	--			4.0	.2	31.0	23.2	--	--		spikes eaten off
16.	14.0	--			7.0	.3	39.0	31.4	--	--		spikes eaten off
17.	14.0	11.7			17.0	.3	23.5	26.6	4	4		maturing in boot
18.	14.0	13.0			20.0	.3	31.0	34.5	5	5		maturing in boot
19.	14.0	11.5			19.0	.3	35.6	48.3	6	6		8 spikes eaten off
20.	14.0	11.5			14.0	.3	23.4	24.0	4	4		12 spikes eaten off

TABLE IV. (continued)

Artemisia tridentata Study Area Cedar Mountain Date 28 June 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	2.9	0	3.0	4.0	3.0	3.5	1	0	0	0
2.	3.1	0	12.5	34.0	11.0	22.0	5	30	2.0	0
3.	3.3	0	27.5	33.0	14.5	23.7	3	2	5.5	0
4.	2.0	0	2.7	2.2	1.0	1.6	1	0	0	0
5.	3.2	0	18.5	26.0	9.0	17.5	5	90	3.5	0
6.	3.6	0	17.0	16.5	9.0	12.7	2	0	4.0	0
7.	3.5	0	30.0	37.0	16.0	26.5	4	5	5.5	0
8.	3.4	0	22.0	25.0	14.5	20.0	3	2	4.4	0
9.	3.7	0	34.5	76.6	63.5	70.0	4	10	6.0	0
10.	3.7	0	20.3	81.0	61.0	71.0	4	10	6.5	0
11.	2.8	0	18.3	85.0	40.0	24.2	5	65	0	0
12.	3.1	0	3.0	7.0	4.0	5.5	1	0	1.0	0
13.	2.5	0	2.0	2.0	1.0	1.5	1	0	0	0
14.	3.0	0	3.5	3.4	1.5	24.5	1	0	.5	0
15.	2.9	0	2.7	3.6	1.5	25.5	1	0	0	0
16.	3.3	0	22.7	28.0	18.0	23.0	3	10	5.0	0
17.	3.6	0	38.9	78.0	53.0	65.6	4	15	4.5	0
18.	2.5	0	2.0	1.7	1.0	1.4	1	0	0	0
19.	3.6	0	30.0	36.5	20.0	28.2	5	60	7.0	0
20.	3.2	0	3.0	7.0	2.3	4.6	1	0	2.0	0

TABLE IV. (continued)

Artemisia tridentata Study Area Cedar Mountain Date 30 July 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.3	0	3.4	4.0	3.0	3.5	1	0	.2	0
2.	3.4	0	17.4	32.0	12.0	22.0	5	30	1.5	0
3.	3.4	5.0	28.0	36.0	16.0	26.0	3	2	1.0	9.0
4.	3.1	0	2.1	2.2	1.2	1.7	1	0	.1	0
5.	4.0	0	7.7	7.5	2.5	5.0	5	90	1.0	0
6.	3.4	5.0	17.9	18.0	11.0	14.5	2	0	1.5	7.0
7.	3.5	5.1	31.0	48.0	17.0	32.5	4	5	1.5	8.2
8.	3.3	5.0	20.6	26.5	15.0	20.8	3	2	1.0	6.9
9.	3.5	5.1	29.7	96.5	57.0	76.5	4	10	3.5	11.2
10.	3.3	5.1	37.5	85.0	52.0	68.5	4	10	2.9	13.0
11.	3.4	0	15.5	41.0	13.0	27.0	5	65	.2	0
12.	3.0	0	2.9	7.0	3.0	5.0	1	0	.1	0
13.	3.0	0	1.3	2.3	1.0	1.7	1	0	.1	0
14.	3.3	0	3.5	3.2	1.9	2.5	1	0	.1	0
15.	3.2	0	2.0	4.0	1.6	2.8	1	0	.1	0
16.	3.4	5.0	27.0	30.0	15.0	22.5	3	10	2.0	10.0
17.	3.4	5.0	35.8	90.0	52.0	71.0	4	15	2.5	7.0
18.	3.1	0	1.7	2.8	1.8	2.3	1	0	.1	0
19.	3.5	5.1	29.0	37.0	22.0	29.5	5	60	2.0	8.5
20.	3.3	0	6.2	6.5	3.0	4.7	1	0	1.0	0

TABLE IV. (continued)

Agropyron smithii Study Area Cumberland #3 Date 31 July 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	14.0	0	.2	15.0	0	0	3
2.	14.0	0	.3	18.4	0	0	1
3.	14.0	0	.2	19.8	0	0	2
4.	14.0	0	.2	15.1	0	0	1
5.	14.0	0	.2	35.0	0	0	1
6.	14.0	0	.2	19.6	0	0	1
7.	14.0	0	.3	17.3	0	0	1
8.	14.0	0	.2	26.5	0	0	1
9.	14.0	0	.2	28.2	0	0	2
10.	14.0	0	.2	33.2	0	0	3
11.	14.0	0	.2	18.8	0	0	3
12.	14.0	0	.3	24.2	0	0	1
13.	14.0	0	.2	32.4	0	0	3
14.	14.0	0	.1	8.5	0	0	2
15.	14.0	0	.2	26.8	0	0	2
16.	14.0	0	.2	21.3	0	0	2
17.	14.0	0	.2	22.7	0	0	2
18.	14.0	0	.3	22.8	0	0	2
19.	14.0	0	.2	14.0	0	0	1
20.	14.0	0	.2	22.0	0	0	1

TABLE IV. (continued)

Agropyron spicatum Study Area Cumberland #3 Date 31 July 1973

PLANT No.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	CLUMP LGTH. cm.	CLUMP WIDTH cm.	CLUMP DIAM. cm.	MAX. LEAF WIDTH cm.	MAX. LEAF HGHT. cm.	MAX. SPIKE HGHT. cm.	NOS. SPIKELETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
1.	14.0	0	7.0	2.0	4.5	.3	38.3	0	0	0		seedling
2.	14.0	5.0	--	--	11.0	.3	29.5	0	0	0		mature-sparse
3.	14.0	0	12.5	10.5	11.5	.3	24.1	0	0	0		seedling
4.	14.0	0	--	--	1.0	.2	21.3	0	0	0		seedling
5.	14.0	0	--	--	5.0	.3	50.7	44.6	0	2		young-sparse-heads eaten off
6.	14.0	0	--	--	4.5	.3	22.2	0	0	0		seedling
7.	14.0	0	10.5	7.0	8.8	.2	18.2	0	0	0		seedling
8.	14.0	0	--	--	3.5	.2	21.2	0	0	0		young-sparse
9.	14.0	13.0	--	--	7.5	.3	29.3	33.7	2	1		intermediate-intermediate
10.	14.0	0	--	--	2.0	.2	23.9	0	0	0		young-dense
11.	14.0	0	--	--	17.0	.3	42.8	26.0	0	0		seedling-heads eaten off
12.	14.0	0	--	--	10.5	.3	25.2	0	0	0		seedlings
13.	14.0	13.5	--	--	9.5	.3	38.8	51.0	5	2		intermediate-intermediate
14.	14.0	0	--	--	12.0	.2	13.2	0	0	0		seedlings
15.	14.0	0	5.0	2.0	3.5	.2	19.1	0	0	0		seedling
16.	14.0	13.5	--	--	4.0	.3	23.4	33.6	5	1		young-dense
17.	14.0	0	--	--	5.0	.3	38.5	0	0	0		seedling
18.	14.0	0	--	--	7.0	.3	30.6	0	0	0		seedling
19.	14.0	0	--	--	3.0	.2	19.0	0	0	0		seedling
20.	14.0	15.5	--	--	5.2	.3	30.0	32.7	4	2		heads eaten off

TABLE IV. (continued)

Artemisia tridentata Study Area Cumberland #3 Date 31 July 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.3	0	41.0	37.0	14.0	25.5	3	15	3.0	0
2.	.32	0	32.6	21.0	12.0	16.5	4	25	.5	0
3.	.32	0	24.0	20.0	8.0	14.0	2	2	1.0	0
4.	3.3	5.0	40.5	45.0	21.0	33.0	4	2	4.0	10.7
5.	3.3	5.0	60.0	62.0	37.0	49.5	4	30	1.0	5.0
6.	3.3	0	26.4	38.2	20.0	29.1	4	20	3.0	0
7.	3.3	5.0	32.5	37.0	15.0	26.0	3	10	2.0	7.8
8.	3.3	5.0	57.0	69.4	26.0	47.7	5	40	2.0	6.2
9.	3.3	0	36.0	28.0	12.0	20.0	5	30	2.0	0
10.	3.2	0	72.5	88.0	32.0	60.0	5	60	.5	0
11.	3.3	5.0	35.0	38.0	14.0	26.0	5	30	1.0	6.0
12.	3.3	0	24.5	20.0	9.0	14.5	3	15	2.0	0
13.	3.3	5.1	70.5	160.0	59.0	109.5	5	20	1.5	12.2
14.	3.3	5.1	59.0	53.0	30.0	41.5	4	15	2.0	9.0
15.	3.2	5.0	53.5	58.0	23.0	40.5	5	25	1.0	5.0
16.	3.3	5.1	50.0	71.3	40.5	55.9	5	20	1.0	8.0
17.	3.3	5.0	59.5	40.0	18.0	29.0	4	80	1.0	4.0
18.	3.3	5.0	40.0	53.0	22.0	37.5	4	15	2.0	8.0
19.	3.3	5.0	54.0	50.0	24.0	37.0	5	40	2.5	9.0
20.	3.4	5.0	41.0	62.0	27.0	44.5	3	15	3.0	7.5

TABLE IV. (continued)

Agropyron smithii Study Area Demer Date 25 June 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	3.4	0	.1	18.9	0	0	1
2.	--	8.0	.1	25.2	25.4	7	1
3.	--	8.0	.1	31.6	38.4	12	1
4.	2.7	0	.1	22.1	0	0	1
5.	3.1	0	.1	22.5	0	0	1
6.	--	7.5	.1	22.0	20.5	7	2
7.	2.7	0	.1	16.2	0	0	1
8.	2.9	0	.1	14.0	0	0	1
9.	3.8	0	.1	15.6	0	0	1
10.	2.5	0	.1	13.0	0	0	2
11.	2.5	0	.1	12.5	0	0	1
12.	2.5	0	.1	12.0	0	0	1
13.	--	8.0	.1	26.0	31.8	11	1
14.	--	7.3	.1	22.6	25.0	5	1
15.	2.7	0	.1	9.2	0	0	1
16.	4.3	0	.1	14.4	0	0	1
17.	3.4	0	.1	14.4	0	0	1
18.	3.8	0	.1	13.5	0	0	1
19.	4.2	0	.1	18.0	0	0	1
20.	2.8	0	.1	14.3	0	0	1

TABLE IV. (continued)

Agropyron smithii Study Area Demer Date 2 August 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKELETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	14.3	0	.2	10.8	0	0	1
2.	14.5	13.0	.1	24.2	24.0	7	1
3.	14.7	13.5	.2	31.5	38.4	12	1
4.	14.4	0	.2	21.6	0	0	1
5.	14.6	0	.3	20.7	0	0	1
6.	14.7	13.5	.3	21.6	19.5	6	2
7.	14.5	0	.2	16.2	0	0	1
8.	14.8	0	.2	13.0	0	0	1
9.	14.7	0	.1	4.5	0	0	1
10.	14.4	0	.1	9.0	0	0	2
11.	14.9	0	.1	9.0	0	0	1
12.	14.7	0	.3	6.6	0	0	1
13.	14.8	13.5	.3	24.6	30.8	10	1
14.	14.7	13.7	.1	22.7	25.4	7	1
15.	14.8	0	.2	8.9	0	0	1
16.	14.4	0	.2	14.3	0	0	1
17.	14.5	0	.2	10.5	0	0	1
18.	14.8	0	.2	14.0	0	0	1
19.	14.4	0	.2	20.0	0	0	1
20.	14.9	0	.1	12.0	0	0	1

TABLE IV. (continued)

Agropyron smithii Study Area Demer Date 9 November 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	16.7	0	.2	13.5	0	0	2
2.	16.8	15.3	.2	10.0	25.0	9	2
3.	16.8	15.5	.3	19.0	38.0	14	2
4.	16.6	0	.3	20.5	0	0	2
5.	16.7	0	.3	17.0	0	0	2
6.	16.6	15.5	.2	18.5	20.0	7	4
7.	16.6	0	.2	15.3	0	0	1
8.	16.6	0	.2	8.0	0	0	1
9.	16.6	0	.1	15.0	0	0	1
10.	16.7	0	.2	12.0	0	0	2
11.	16.7	0	.1	10.0	0	0	1
12.	16.7	0	.2	9.2	0	0	1
13.	16.8	15.5	.2	16.0	32.0	11	1
14.	16.6	15.5	.2	16.0	23.0	8	1
15.	16.6	0	.1	8.5	0	0	1
16.	16.6	0	.2	15.5	0	0	2
17.	16.6	0	.2	13.0	0	0	1
18.	16.8	0	.1	6.0	0	0	2
19.	16.5	0	.3	15.0	0	0	1
20.	61.5	0	.2	6.5	0	0	1

TABLE IV. (continued)

Agropyron smithii Study Area Demer Date 1 December 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	16.8	0	.2	13.5	0	0	2
2.	16.8	15.9	.2	10.0	25.0	9	2
3.	16.8	15.9	.3	19.0	38.0	14	2
4.	16.8	0	.3	20.5	0	0	2
5.	16.8	0	.3	17.0	0	0	2
6.	16.8	15.9	.2	18.5	20.0	7	4
7.	16.7	0	.2	13.3	0	0	1
8.	16.9	0	.2	8.0	0	0	1
9.	16.7	0	.1	15.0	0	0	1
10.	16.8	0	.2	12.0	0	0	2
11.	16.8	0	.1	10.0	0	0	1
12.	16.8	15.3	.2	9.2	0	0	1
13.	16.8	15.8	.2	16.0	32.0	11	1
14.	16.8	0	.2	16.0	23.0	8	1
15.	16.8	0	.1	8.5	0	0	1
16.	16.7	0	.2	15.5	0	0	2
17.	16.8	0	.2	13.0	0	0	1
18.	16.8	0	.1	6.0	0	0	2
19.	16.7	0	.3	15.0	0	0	1
20.	16.9	0	.1	6.5	0	0	1

TABLE IV. (continued)

Agropyron smithii Study Area Demer Date 27 December 1973

PLANT NO.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
1.	17.0	0	.2	13.5	0	0	2
2.	17.0	17.0	.2	10.0	25.0	9	2
3.	17.0	17.0	.3	19.0	38.0	14	2
4.	17.0	0	.3	20.5	0	0	2
5.	17.0	0	.3	17.0	0	0	2
6.	17.0	15.9	.2	18.5	20.0	7	4
7.	17.0	0	.2	15.3	0	0	1
8.	17.0	0	.2	8.0	0	0	1
9.	17.0	0	.1	15.0	0	0	1
10.	17.0	0	.2	12.0	0	0	2
11.	17.0	0	.1	10.0	0	0	1
12.	17.0	0	.2	9.2	0	0	1
13.	17.0	15.3	.2	16.0	32.0	11	1
14.	17.0	17.0	.2	16.0	23.0	8	1
15.	17.0	0	.1	8.5	0	0	1
16.	17.0	0	.2	15.5	0	0	2
17.	17.0	0	.2	13.0	0	0	1
18.	17.0	0	.1	6.0	0	0	2
19.	17.0	0	.3	15.0	0	0	1
20.	17.0	0	.2	6.5	0	0	1

TABLE IV. (continued)

Agropyron spicatum Study Area Demer Date 25 June 1973

PLANT No.	PHENO. STAGE SCORE		CLUMP			MAX. LEAF WIDTH cm.	MAX. LEAF HGHT. cm.	MAX. SPIKE HGHT. cm.	NOS. SPIKELETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
	VEG.	REPR.	LGTH. cm.	WIDTH cm.	DIAM. cm.							
1.	4.0	8.1	--	--	7.5	.2	30.7	33.9	7	14		intermediate-intermediate
2.	4.2	10.8	--	--	26.0	.3	37.0	52.0	12	172		mature-dense
3.	3.5	10.0	--	--	6.0	.1	40.0	50.0	6	9		young-dense
4.	3.9	10.5	--	--	24.0	.2	45.2	52.2	8	116		mature-dense
5.	4.2	10.2	--	--	17.0	.2	37.0	39.5	6	49		mature-dense
6.	4.2	10.2	--	--	8.0	.2	41.5	45.5	6	21		intermediate-dense
7.												
8.												
9.												
10.												
11.												
12.												
13.												
14.												
15.												
16.												
17.												
18.												
19.												
20.												

TABLE IV. (continued)

Agropyron spicatum Study Area Demer Date 2 August 1973

PLANT No.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	CLUMP LGTH. cm.	CLUMP WIDTH cm.	CLUMP DIAM. cm.	MAX. LEAF WIDTH cm.	MAX. LEAF HGHT. cm.	MAX. SPIKE HGHT. cm.	NOS. SPIKELETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
1.	14.4	13.2	---	---	8.0	.3	32.9	35.4	6	19		intermediate-dense
2.	14.7	15.0	---	---	28.3	.3	41.6	39.0	5	146		mature-dense
3.	14.4	15.2	---	---	5.0	.3	40.5	49.0	6	9		young-dense
4.	14.6	15.0	---	---	19.5	.3	43.0	53.4	8	121		mature-dense
5.	14.6	15.2	---	---	18.5	.3	31.9	44.0	6	46		mature-dense
6.	14.6	15.2	---	---	10.0	.3	41.9	45.7	6	19		intermediate-dense
7.												
8.												
9.												
10.												
11.												
12.												
13.												
14.												
15.												
16.												
17.												
18.												
19.												
20.												

TABLE IV. (continued)

Agropyron spicatum Study Area Demer Date 9 November 1973

PLANT No.	PHENO. STAGE SCORE		CLUMP			MAX. LEAF WIDTH	MAX. LEAF HGHT.	MAX. SPIKE HGHT.	NOS. SPIKE-LETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
	VEG.	REPR.	LGTH. cm.	WIDTH cm.	DIAM. cm.	cm.	cm.	cm.				
1.	16.8	15.9	--	--	8.0	.3	18.0	35.4	6	19		intermediate-dense
2.	16.9	15.8	--	--	28.3	.3	14.0	39.0	5	146		mature-dense
3.	16.8	15.9	--	--	5.0	.3	12.0	49.0	6	9		young-dense
4.	16.8	15.8	--	--	19.5	.3	10.0	53.4	8	121		mature-dense
5.	16.8	15.8	--	--	18.5	.3	12.0	44.0	6	46		mature-dense
6.	16.8	15.8	--	--	10.5	.3	12.0	45.7	6	19		intermediate-dense
7.												
8.												
9.												
10.												
11.												
12.												
13.												
14.												
15.												
16.												
17.												
18.												
19.												
20.												

TABLE IV. (continued)

Agropyron spicatum Study Area Demer Date 1 December 1973

PLANT No.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	CLUMP LGTH. cm.	CLUMP WIDTH cm.	CLUMP DIAM. cm.	MAX. LEAF WIDTH cm.	MAX. LEAF HGHT. cm.	MAX. SPIKE HGHT. cm.	NOS. SPIKELETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
1.	16.6	15.7	--	--	8.0	.3	18.0	35.4	6	19		intermediate-dense
2.	16.6	15.9	--	--	28.3	.3	14.0	39.0	5	146		mature-dense
3.	16.6	15.8	--	--	5.0	.3	12.0	49.0	6	9		young-dense
4.	16.6	15.8	--	--	19.5	.3	10.0	53.4	8	121		mature-dense
5.	16.6	15.8	--	--	18.5	.3	12.0	44.0	6	46		mature-dense
6.	16.6	15.9	--	--	10.0	.3	12.0	45.7	6	19		intermediate-dense
7.												
8.												
9.												
10.												
11.												
12.												
13.												
14.												
15.												
16.												
17.												
18.												
19.												
20.												

TABLE IV. (continued)

Agropyron spicatum Study Area Demer Date 27 December 1973

PLANT No.	PHENO. STAGE SCORE		CLUMP			MAX. LEAF WIDTH	MAX. LEAF HGHT.	MAX. SPIKE HGHT.	NOS. SPIKE-LETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
	VEG.	REPR.	LGTH. cm.	WIDTH cm.	DIAM. cm.	cm.	cm.	cm.				
1.	17.0	17.0	--	--	8	.3	18.0	35.4	6	19		intermediate-dense
2.	17.0	17.0	--	--	28.3	.3	14.0	39.0	5	146		mature-dense
3.	17.0	17.0	--	--	5.0	.3	12.0	49.0	6	9		young-dense
4.	17.0	17.0	--	--	19.5	.3	10.0	53.0	8	121		mature-dense
5.	17.0	17.0	--	--	18.5	.3	12.0	44.0	6	46		mature-dense
6.	17.0	17.0	--	--	10.0	.3	12.0	45.7	6	19		intermediate-dense
7.												
8.												
9.												
10.												
11.												
12.												
13.												
14.												
15.												
16.												
17.												
18.												
19.												
20.												

TABLE IV. (continued)

Artemisia tridentata Study Area Demer Date 26 June 1973

PLANT NO.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
1.	2.9	0	16.0	18.1	10.8	15.0	2	0	0	0
2.	2.9	0	17.5	43.0	26.0	32.0	3	0	0	0
3.	2.9	0	17.0	46.2	25.8	35.0	4	5	0	0
4.	2.9	0	13.5	45.0	34.0	39.5	4	30	0	0
5.	3.0	0	15.7	51.0	27.2	39.1	4	20	1.8	0
6.	3.0	0	20.0	47.0	30.0	38.5	4	5	1.0	0
7.	2.5	0	10.0	15.0	7.0	11.0	2	0	0	0
8.	3.0	0	19.0	52.5	45.5	49.0	4	5	2.0	0
9.	3.1	0	23.5	40.0	24.0	32.0	3	0	2.0	0
10.	3.0	0	29.0	60.0	43.0	51.5	4	2	1.0	0
11.	3.1	0	23.5	47.0	32.0	39.5	4	5	2.0	0
12.	2.8	0	16.0	55.0	37.0	46.0	4	3	0	0
13.	3.1	0	30.5	71.0	38.5	54.0	5	35	2.0	0
14.	2.8	0	31.0	24.0	11.0	17.5	5	60	0	0
15.	2.9	0	38.0	56.5	15.0	35.7	5	40	0	0
16.	2.8	0	17.0	24.0	15.0	19.5	5	55	0	0
17.	2.8	0	10.0	35.5	21.0	27.2	3	2	0	0
18.	3.3	0	19.0	51.0	35.0	44.0	4	10	3.5	0
19.	2.9	0	19.0	53.0	22.0	37.5	4	5	0	0
20.	2.9	0	9.0	15.0	7.0	11.0	2	5	0	0

TABLE IV. (continued)

Artemisia tridentata Study Area Demer Date 2 August 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.6	5.5	14.2	18.1	10.8	14.5	2	0	.5	2.0
2.	3.5	0	24.7	43.0	26.0	34.5	3	0	1.0	0
3.	3.5	0	16.3	46.2	25.8	36.0	4	5	.5	0
4.	3.5	0	12.8	51.4	23.7	37.5	4	30	.5	0
5.	3.5	0	17.3	58.9	27.6	43.3	4	20	1.0	0
6.	3.6	5.4	26.3	48.9	24.8	36.8	4	5	1.0	3.5
7.	3.6	9	11.6	14.8	5.5	10.2	2	0	.5	0
8.	3.6	5.3	23.8	71.5	28.7	50.1	4	5	.5	2.0
9.	3.6	5.4	23.3	41.3	16.0	28.6	3	0	.5	3.0
10.	3.7	0	28.9	67.0	32.0	49.5	4	2	.1	0
11.	3.6	5.3	22.8	52.6	30.9	41.8	4	5	1.5	2.0
12.	3.6	5.3	21.3	59.1	29.2	44.1	4	3	1.0	1.0
13.	3.6	5.2	37.1	75.5	43.4	59.5	5	35	1.0	2.0
14.	3.6	5.2	33.0	30.6	12.5	21.5	5	60	.5	1.0
15.	3.6	5.2	40.0	48.6	29.2	38.9	5	40	1.0	1.0
16.	3.5	0	17.0	26.5	11.2	18.9	5	55	.5	0
17.	3.5	0	17.4	37.5	20.3	28.9	3	2	.5	0
18.	3.5	5.3	21.5	57.9	38.0	47.9	4	10	1.5	2.5
19.	3.5	0	20.3	56.8	23.0	39.9	4	5	.5	0
20.	3.4	0	12.0	15.6	9.0	12.3	2	5	.5	0

TABLE IV. (continued)

Artemisia tridentata Study Area Demer Date 9 November 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	14.6	13.5	16.0	18.1	10.8	14.5	2	0	1.0	
2.	14.5	13.5	23.0	43.0	26.0	34.5	3	0	1.0	
3.	14.3	0	17.0	46.2	25.8	36.0	4	5	1.0	
4.	14.5	13.5	11.0	51.4	23.7	37.5	4	30	.5	
5.	14.3	13.5	17.0	58.9	27.6	43.3	4	20	.5	
6.	14.6	13.6	28.0	48.9	24.8	36.8	4	5	.5	
7.	14.7	0	9.0	14.8	5.5	10.2	2	0	1.5	
8.	14.6	13.5	23.0	71.5	28.7	50.1	4	5	1.0	
9.	14.7	15.8	25.0	41.3	16.0	28.6	3	0	.5	
10.	14.6	13.8	32.0	67.0	32.0	49.5	4	2	1.0	
11.	14.5	15.0	25.0	52.6	30.9	41.8	4	5	1.0	
12.	14.5	13.8	22.5	59.1	29.2	44.1	4	3	.5	
13.	14.7	13.6	26.0	75.5	43.3	59.5	5	35	1.0	
14.	14.7	13.9	32.0	30.6	12.5	21.5	5	60	.5	
15.	14.7	15.1	41.0	48.6	29.2	38.9	5	40	1.0	
16.	14.6	0	16.5	26.5	11.2	18.9	5	55	1.0	
17.	14.6	0	15.0	37.5	20.3	28.9	3	2	1.0	
18.	14.6	15.0	24.0	57.9	38.0	47.9	4	10	1.5	
19.	14.6	13.5	21.0	56.8	23.0	39.9	4	5	.5	
20.	14.6	0	11.5	15.6	9.0	12.3	2	5	1.0	

TABLE IV. (continued)

Artemisia tridentata Study Area Demer Date 1 December 1973

PLANT NO.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
1.	14.6	15.8	16.0	18.1	10.8	14.5	2	0	1.0	2.0
2.	14.6	15.7	23.0	43.0	26.0	34.5	3	0	1.0	4.0
3.	14.7	0	17.0	46.2	25.8	36.0	4	5	1.0	0
4.	14.7	15.9	11.0	51.4	23.7	37.5	4	30	.5	2.0
5.	14.6	15.6	17.0	48.9	27.6	43.3	4	20	.5	1.0
6.	14.7	15.6	28.0	48.9	24.8	36.8	4	5	.5	4.0
7.	14.7	0	9.0	14.8	5.5	10.2	2	0	1.5	0
8.	14.6	15.8	23.0	71.5	28.7	50.1	4	5	1.0	3.0
9.	14.7	15.8	25.0	41.3	16.0	28.6	3	0	.5	4.0
10.	14.6	15.5	32.0	67.0	32.0	49.5	4	2	1.0	2.0
11.	14.7	15.7	25.0	52.6	30.9	41.8	4	5	1.0	2.0
12.	14.6	15.7	22.5	59.1	29.2	44.1	4	3	.5	1.0
13.	14.8	15.7	36.0	75.5	43.4	59.5	5	35	1.0	3.0
14.	14.7	15.6	37.0	30.6	12.5	21.5	5	60	.5	2.0
15.	14.7	15.8	41.0	48.6	29.2	38.9	5	40	1.0	1
16.	14.7	0	16.5	26.5	11.2	18.9	5	55	1.0	0
17.	14.7	0	15.0	37.5	20.3	28.9	3	2	1.0	0
18.	14.6	15.6	24.0	57.5	38.0	47.9	4	10	1.5	3.0
19.	14.7	0	21.0	56.8	23.0	39.9	4	5	.5	1.0
20.	14.8	0	11.5	15.6	9.0	12.3	2	5	1.0	0

TABLE IV. (continued)

Artemisia tridentata Study Area Demer Date 27 December 1973

PLANT NO.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
1.	14.8	15.7	16.0	18.1	10.8	14.5	2	0	1.0	2.0
2.	14.8	15.5	23.0	43.0	26.0	34.5	3	0	1.0	4.0
3.	14.8	0	17.0	46.2	25.8	36.0	4	5	1.0	0
4.	14.8	15.3	11.0	51.4	23.7	37.5	4	30	.5	2.0
5.	14.8	15.3	17.0	58.9	27.6	43.3	4	20	.5	1.0
6.	14.8	15.5	28.0	48.9	24.8	36.8	4	5	.5	4.0
7.	14.8	0	9.0	14.8	5.5	10.2	2	0	1.5	0
8.	14.8	15.6	23.0	71.5	28.7	50.1	4	5	1.0	3.0
9.	14.8	15.9	25.0	41.3	16.0	28.6	3	0	.5	4.0
10.	14.8	15.3	32.0	67.0	32.0	49.5	4	2	1.0	2.0
11.	14.8	15.5	25.0	52.6	30.9	41.8	4	5	1.0	2.0
12.	14.8	15.3	22.5	59.1	29.2	44.1	4	3	.5	1.0
13.	14.8	15.8	36.0	75.5	43.4	59.5	5	35	1.0	3.0
14.	14.8	15.4	32.0	30.6	12.5	21.5	5	60	.5	2.0
15.	14.8	15.8	41.0	48.5	29.2	38.9	5	40	1.0	1.0
16.	14.7	0	16.5	26.5	11.2	18.9	5	55	1.0	0
17.	14.8	0	15.0	37.5	20.3	28.9	3	2	1.0	0
18.	14.8	15.3	24.0	57.5	38.0	47.9	4	10	1.5	3.0
19.	14.8	0	21.0	56.8	23.0	39.9	4	5	.5	0
20.	14.8	0	11.5	15.6	9.0	12.3	2	5	1.0	0

TABLE IV. (continued)

Agropyron smithii Study Area Farson Date 27 June 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.6	0	.1	35.5	0	0	3	
2.	4.0	0	.1	7.3	0	0	1	
3.	3.7	0	.2	21.2	0	0	2	
4.	3.6	0	.2	17.1	0	0	1	
5.	4.3	0	.2	21.2	0	0	1	
6.	4.5	0	.3	26.4	0	0	1	
7.	3..	0	.1	11.5	0	0	1	
8.	2.5	0	.1	6.8	0	0	1	
9.	4.9	0	.1	8.7	0	0	2	
10.	4.5	0	.1	15.8	0	0	1	
11.	4.4	0	.2	26.0	0	0	2	
12.	3.4	0	.2	16.6	0	0	1	95% use of leaf
13.	4.3	0	.4	25.8	0	0	2	
14.	2.8	0	.1	25.3	0	0	1	
15.	3.4	0	.1	16.9	0	0	1	
16.	4.5	0	.2	24.1	0	0	1	
17.	4.2	0	.1	8.3	0	0	1	
18.	4.4	0	.2	15.0	0	0	1	
19.	3.6	0	.1	13.1	0	0	1	
20.	3.5	0	.1	16.1	0	0	1	

TABLE IV. (continued)

Agropyron smithii Study Area Farson Date 7 August 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	14.3	0	.1	35.0	0	0	3	
2.	14.1	0	.1	7.2	0	0	1	
3.	14.1	0	.3	21.2	0	0	2	
4.	14.1	0	.2	16.2	0	0	1	
5.	14.1	0	.3	20.4	0	0	1	
6.	14.1	0	.3	25.5	0	0	2	
7.	14.2	0	.2	12.9	0	0	1	
8.	14.2	0	.1	8.5	0	0	1	
9.	14.3	0	.1	8.5	0	0	3	
10.	14.2	0	.1	14.9	0	0	2	
11.	14.2	0	.1	25.0	0	0	2	
12.	14.1	0	.2	16.1	0	0	1	
13.	14.1	0	.3	26.1	0	0	2	
14.	14.2	0	.1	25.3	0	0	1	
15.	14.2	0	.1	18.0	0	0	1	
16.	14.2	0	.1	21.3	0	0	1	
17.	14.0	0	.1	6.5	0	0	1	eaten off
18.	14.2	0	.3	14.6	0	0	1	
19.	14.1	0	.1	14.2	0	0	1	
20.	14.1	0	.1	16.0	0	0	1	

TABLE IV. (continued)

Agropyron smithii Study Area Farson Date 15 August 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKELETS/CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	14.0	0	.1	34.5	0	0	3
2.	14.0	0	.1	7.5	0	0	2
3.	14.0	0	.3	21.0	0	0	2
4.	14.0	0	.1	17.0	0	0	1
5.	14.0	0	.3	20.5	0	0	1
6.	14.0	0	.3	26.8	0	0	1
7.	14.0	0	.1	12.9	0	0	1
8.	14.8	0	.1	6.6	0	0	1
9.	14.0	0	.2	8.6	0	0	2
10.	14.0	0	.2	15.5	0	0	2
11.	14.0	0	.1	28.0	0	0	1
12.	14.3	0	.2	16.5	0	0	1
13.	14.0	0	.3	26.0	0	0	2
14.	14.5	0	.2	26.5	0	0	1
15.	14.0	0	.2	17.6	0	0	1
16.	14.0	0	.2	31.1	0	0	1
17.	4.5	0	.1	8.8	0	0	1
18.	14.0	0	.3	15.0	0	0	1
19.	14.0	0	.1	14.4	0	0	1
20.	14.0	0	.1	16.2	0	0	1

TABLE IV. (continued)

Agropyron smithii Study Area Farson Date 1 December 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	17.0	0	.1	34.5	0	0	3
2.	17.0	0	.1	7.5	0	0	2
3.	17.0	0	.3	21.0	0	0	2
4.	17.0	0	.1	17.0	0	0	1
5.	17.0	0	.3	20.5	0	0	1
6.	17.0	0	.3	26.8	0	0	1
7.	17.0	0	.1	12.9	0	0	1
8.	17.0	0	.1	6.6	0	0	1
9.	17.0	0	.2	8.6	0	0	2
10.	17.0	0	.2	15.5	0	0	2
11.	17.0	0	.1	28.0	0	0	1
12.	17.0	0	.2	16.5	0	0	1
13.	17.0	0	.3	26.0	0	0	2
14.	17.0	0	.2	26.5	0	0	2
15.	17.0	0	.2	17.6	0	0	1
16.	17.0	0	.2	21.1	0	0	1
17.	17.0	0	.1	8.8	0	0	1
18.	17.0	0	.3	15.0	0	0	1
19.	17.0	0	.1	14.4	0	0	1
20.	17.0	0	.1	16.2	0	0	1

TABLE IV. (continued)

Agropyron smithii Study Area Farson Date 28 December 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	17.0	0	.1	34.5	0	0	3
2.	17.0	0	.1	7.5	0	0	2
3.	17.0	0	.3	21.0	0	0	2
4.	17.0	0	.1	17.0	0	0	1
5.	17.0	0	.3	20.5	0	0	1
6.	17.0	0	.3	26.8	0	0	1
7.	17.0	0	.1	12.9	0	0	1
8.	17.0	0	.1	6.6	0	0	1
9.	17.0	0	.2	8.6	0	0	2
10.	17.0	0	.2	15.5	0	0	2
11.	17.0	0	.1	28.0	0	0	1
12.	17.0	0	.2	16.5	0	0	1
13.	17.0	0	.3	26.0	0	0	2
14.	17.0	0	.2	26.5	0	0	1
15.	17.0	0	.2	17.6	0	0	1
16.	17.0	0	.2	21.1	0	0	1
17.	17.0	0	.1	8.8	0	0	1
18.	17.0	0	.3	15.0	0	0	1
19.	17.0	0	.1	14.4	0	0	1
20.	17.0	0	.1	16.2	0	0	1

TABLE IV. (continued)

Artemisia tridentata Study Area Farson Date 27 June 1973

PLANT NO.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
1.	3.1	0	20.0	32.0	21.0	26.5	3	5	1.8	0
2.	3.0	0	11.0	40.0	25.0	32.0	3	10	.5	0
3.	3.2	0	33.0	80.0	49.0	65.0	4	15	5.5	0
4.	3.0	0	18.0	32.0	13.0	22.5	3	25	.5	0
5.	3.2	0	32.0	75.0	44.0	59.5	4	15	2.2	0
6.	3.0	0	31.0	39.0	22.0	30.5	4	10	.5	0
7.	2.8	0	11.0	34.0	8.0	21.0	2	2	0	0
8.	2.0	0	31.0	63.0	33.0	48.0	4	5	0	0
9.	3.1	0	16.0	46.0	17.0	31.5	3	5	.5	0
10.	2.8	0	17.0	42.0	11.0	26.5	5	55	0	0
11.	3.0	0	32.0	55.0	31.0	43.0	4	5	.5	0
12.	3.2	0	27.0	54.0	36.0	45.0	3	2	4.0	0
13.	3.1	0	24.0	49.0	17.0	33.0	4	15	.5	0
14.	3.0	0	19.0	48.0	30.0	39.0	4	20	3.0	0
15.	3.0	0	19.0	18.0	8.0	13.0	3	10	.5	0
16.	3.1	0	17.0	25.0	14.0	19.5	3	5	2.0	0
17.	3.1	0	9.0	23.0	2.0	12.5	3	35	3.0	0
18.	2.0	0	14.0	61.0	8.0	34.5	4	35	0	0
19.	3.0	0	24.0	37.0	12.0	24.5	3	15	.5	0
20.	2.0	0	13.0	49.0	19.0	34.0	3	5	.5	0

TABLE IV. (continued)

Artemisia tridentata   Study Area Farson   Date 7 August 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.7	5.3	21.0	34.3	30.0	32.15	3	5	2.0	4.0
2.	3.7	0	18.7	37.6	24.5	21.05	3	10	1.7	0
3.	3.8	5.4	36.3	66.2	29.0	47.6	4	15	1.0	6.5
4.	3.6	0	19.7	37.0	18.2	27.6	3	25	.5	0
5.	3.8	5.4	40.4	77.8	42.0	59.9	4	15	2.0	3.8
6.	3.6	5.3	26.1	60.4	24.5	42.45	4	10	1.0	5.5
7.	3.5	0	15.4	35.6	14.3	24.94	2	2	.5	0
8.	3.5	0	31.3	74.8	29.2	52.0	4	5	.5	0
9.	3.7	5.3	21.8	50.4	19.4	34.9	3	5	1.0	2.5
10.	3.5	0	16.3	43.0	18.4	30.7	5	55	.5	–
11.	3.7	5.4	31.7	69.9	27.1	38.5	4	5	1.5	7.0
12.	3.8	5.4	33.8	59.8	42.5	51.15	3	2	2.3	7.5
13.	3.8	5.4	26.5	51.5	22.0	36.75	4	15	2.0	5.0
14.	3.8	5.4	22.0	53.3	34.2	43.75	4	20	3.5	7.0
15.	3.7	5.3	21.3	32.0	15.5	23.75	3	10	.5	2.0
16.	3.8	0	19.0	24.5	14.3	19.4	3	5	2.5	0
17.	3.4	0	11.0	21.7	5.0	13.35	3	35	1.0	0
18.	3.5	0	16.3	62.0	10.5	36.25	4	35	.5	0
19.	3.7	0	26.0	44.3	13.0	28.65	3	15	1.0	0
20.	3.7	0	19.6	45.6	22.5	34.05	3	5	2.0	0

TABLE IV. (continued)

Artemisia tridentata　　Study Area Farson　　Date 15 August 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.7	5.4	23.0	43.0	29.0	36.0	3	5	.5	2.5
2.	3.8	0	11.0	27.0	26.0	26.5	3	0	1.0	0
3.	3.7	5.5	35.0	80.0	49.0	65.0	4	5	2.0	9.5
4.	3.7	0	20.5	30.0	18.0	24.0	3	25	1.0	0
5.	4.0	5.5	40.0	75.0	44.0	59.5	4	15	2.5	5.0
6.	3.3	0	29.0	42.0	33.0	37.5	4	10	1.0	0
7.	3.5	0	14.0	22.0	8.0	15.0	2	2	.3	0
8.	3.5	0	29.0	63.0	25.0	44.0	4	5	.3	0
9.	3.3	5.2	18.0	46.0	18.0	42.0	3	5	.5	2.5
10.	3.5	0	17.0	42.0	18.0	30.0	5	22	.5	0
11.	3.3	5.5	34.0	60.0	35.0	47.5	4	5	2.5	6.0
12.	3.3	5.5	35.0	50.0	50.0	50.0	3	2	3.5	8.0
13.	3.5	5.2	21.5	50.0	15.0	32.5	4	15	.5	5.0
14.	3.4	5.5	31.0	50.0	32.0	41.0	4	20	3.5	7.0
15.	3.4	5.1	21.0	20.0	10.0	15.0	3	10	1.0	2.0
16.	3.7	0	17.0	22.0	15.0	18.5	3	5	1.0	0
17.	3.5	0	10.0	23.0	2.0	12.5	3	35	1.0	0
18.	3.5	0	13.0	60.0	17.0	38.5	4	35	.3	0
19.	3.4	0	27.0	37.0	12.0	24.5	3	15	1.0	0
20.	3.5	0	17.0	46.0	20.0	33.0	3	5	3.5	0

TABLE IV. (continued)

Artemisia tridentata Study Area Farson Date 1 December 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.	
	VEG.	REPR.									
1.	14.7	15.7	23.0	43.0	29.0	36.0	3	5	.5	2.5	
2.	14.7	0	11.0	27.0	26.0	36.5	3	10	1.0	0	
3.	14.8	15.8	35.0	80.0	49.0	65.0	4	15	2.0	9.5	
4.	14.8	0	20.5	30.0	18.0	24.0	3	25	1.0	0	
5.	14.8	15.7	40.0	75.0	44.0	59.5	4	15	1.5	5.0	
6.	14.8	0	29.0	42.0	33.0	37.5	4	10	1.0	0	
7.	14.8	0	14.0	22.0	8.0	15.0	2	2	.3	0	
8.	14.7	0	29.0	63.0	25.0	44.0	4	5	.3	0	
9.	14.8	0	18.0	46.0	18.0	42.0	3	5	.5	2.5	
10.	14.8	0	17.0	42.0	18.0	30.0	5	22	.5	0	
11.	14.7	15.8	34.0	60.0	35.0	47.5	4	5	2.5	6.0	
12.	14.7	15.9	35.0	50.0	50.0	50.0	3	2	3.5	8.0	
13.	14.7	15.8	21.5	50.0	15.0	32.5	4	15	.5	5.0	
14.	14.7	0	31.0	50.0	32.0	41.0	4	20	3.5	7.0	
15.	14.8	0	21.0	20.0	10.0	15.0	3	10	1.0	2.0	
16.	14.8	0	12.0	22.0	15.0	18.5	3	5	1.0	0	
17.	14.9	0	10.0	23.0	2.0	12.5	3	90	1.0	0	dieing
18.	14.8	0	13.0	60.0	17.0	38.5	4	35	.3	0	
19.	14.7	0	27.0	37.0	12.0	24.5	3	15	1.0	0	
20.	14.7	0	17.0	46.0	20.0	33.0	3	5	3.0	0	

TABLE IV. (continued)

Artemisia tridentata Study Area Farson Date 28 December 1973

PLANT NO.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
1.	14.8	15.9	23.0	43.0	29.0	36.0	3	5	.5	2.5
2.	14.8	0	11.0	27.0	26.0	26.5	3	10	1.0	0
3.	14.8	15.9	35.0	80.0	49.0	65.0	4	15	2.0	9.5
4.	14.8	0	20.5	30.0	18.0	24.0	3	25	1.0	0
5.	14.9	15.9	40.0	75.0	44.0	59.5	4	15	1.5	5.0
6.	14.8	15.0	29.0	42.0	33.0	37.5	4	10	1.0	0
7.	14.8	0	14.0	22.0	8.0	15.0	2	2	.3	0
8.	14.8	0	29.0	63.0	25.0	44.0	4	5	.3	0
9.	14.8	0	18.0	46.0	18.0	42.0	3	5	.5	2.5
10.	14.8	0	17.0	42.0	18.0	30.0	5	5	.5	0
11.	14.8	0	34.0	60.0	35.0	47.5	4	5	2.5	6.0
12.	14.8	15.9	35.0	50.0	50.0	50.0	3	2	3.5	8.0
13.	14.8	15.9	21.5	50.0	15.0	32.5	4	15	.5	5.0
14.	14.8	15.9	31.0	50.0	32.0	41.0	4	20	3.5	7.0
15.	14.8	0	21.0	20.0	10.0	15.0	3	10	1.0	2.0
16.	14.8	0	12.0	22.0	15.0	18.5	3	5	1.0	0
17.	14.9	0	10.0	23.0	2.0	12.5	3	99.5	1.0	0
18.	14.9	0	13.0	60.0	17.0	38.5	4	35	.3	0
19.	14.8	0	27.0	37.0	12.0	24.5	3	15	1.0	0
20.	14.8	0	17.0	46.0	20.0	33.0	3	5	3.0	0

TABLE IV. (continued)

Agropyron smithii Study Area Horse Creek Date 26 June 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	3.0	0	.3	23.3	0	0	1
2.	3.0	0	.4	26.8	0	0	10
3.	3.0	0	.4	24.0	0	0	1
4.	3.0	0	.4	20.0	0	0	2
5.	4.1	0	.2	16.5	0	0	1
6.	3.0	0	.3	18.8	0	0	2
7.	4.3	0	.4	21.0	0	0	1
8.	4.1	0	.4	24.0	0	0	1
9.	3.1	0	.2	17.2	0	0	1
10.	3.3	0	.4	23.5	0	0	4
11.	3.8	0	.5	33.2	0	0	1
12.	3.0	0	.1	13.9	0	0	1
13.	3.6	0	.3	22.2	0	0	2
14.	3.7	0	.3	15.4	0	0	2
15.	3.7	0	.2	16.0	0	0	1
16.	3.6	0	.2	14.7	0	0	1
17.	3.0	0	.3	19.9	0	0	2
18.	3.3	0	.2	12.0	0	0	1
19.	4.5	0	.5	21.6	0	0	2
20.	3.7	0	.4	23.1	0	0	3

TABLE IV. (continued)

Agropyron smithii Study Area Horse Creek Date 2 August1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	14.2	0	.3	22.0	0	0	1
2.	14.2	0	.3	28.8	0	0	10
3.	14.2	0	.3	23.6	0	0	1
4.	14.2	0	.3	21.0	0	0	2
5.	14.3	0	.3	15.6	0	0	1
6.	14.2	0	.3	19.1	0	0	2
7.	14.1	0	.3	22.0	0	0	1
8.	14.1	0	.4	24.5	0	0	1
9.	14.5	0	.3	17.5	0	0	1
10.	14.3	0	.3	23.7	0	0	4
11.	14.2	0	.4	36.0	0	0	1
12.	14.6	0	.2	13.2	0	0	1
13.	14.3	0	.3	27.5	0	0	2
14.	14.1	0	.3	17.2	0	0	2
15.	14.1	0	.3	23.1	0	0	1
16.	14.2	0	.1	4.4	0	0	1
17.	14.2	0	.3	19.9	0	0	1
18.	14.6	0	.3	17.0	0	0	1
19.	14.2	0	.3	24.2	0	0	2
20.	14.5	0	.3	27.4	0	0	2

TABLE IV. (continued)

Agropyron smithii Study Area Horse Creek Date 10 November1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	16.7	0	.3	22.3	0	0	1
2.	16.7	0	.3	24.0	0	0	4
3.	16.7	0	.3	23.5	0	0	2
4.	16.7	0	.3	19.2	0	0	4
5.	16.7	0	.3	15.0	0	0	2
6.	16.8	0	.3	18.5	0	0	3
7.	16.8	0	.2	24.0	0	0	3
8.	16.7	0	.2	24.5	0	0	2
9.	16.8	0	.3	31.5	0	0	2
10.	14.7	0	.4	25.0	0	0	4
11.	16.7	0	.4	24.0	0	0	4
12.	16.9	0	.2	13.2	0	0	2
13.	14.9	0	.3	23.0	0	0	4
14.	16.8	0	.3	16.5	0	0	2
15.	16.7	0	.4	20.5	0	0	3
16.	17.0	0	.2	14.0	0	0	1
17.	16.	0	.3	20.0	0	0	4
18.	17.0	0	.3	17.0	0	0	1
19.	16.7	0	.3	25.0	0	0	3
20.	16.7	0	.3	26.5	0	0	3

TABLE IV. (continued)

Agropyron smithii Study Area Horse Creek Date 30 November1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	16.8	0	.3	27.3	0	0	1	
2.	16.7	0	.3	24.0	0	0	4	
3.	16.6	0	.3	23.5	0	0	2	
4.	17.0	0	.3	19.2	0	0	4	
5.	16.6	0	.3	15.0	0	0	2	
6.	16.8	0	.3	18.5	0	0	3	
7.	16.7	0	.2	24.0	0	0	3	
8.	16.8	0	.2	24.5	0	0	2	
9.	16.7	0	.3	21.5	0	0	2	
10.	16.7	0	.4	25.0	0	0	4	
11.	16.6	0	.4	24.0	0	0	4	
12.	17.0	0	.2	13.2	0	0	2	
13.	16.7	0	.3	23.0	0	0	4	
14.	17.0	0	.3	16.5	0	0	2	
15.	16.6	0	.4	20.5	0	0	3	old plants 17.0 with fall regrowth
16.	17.0	0	.2	14.0	0	0	1	16.7
17.	16.7	0	.3	20.0	0	0	4	
18.	17.0	0	.3	17.0	0	0	1	
19.	16.7	0	.3	25.0	0	0	3	
20.	16.8	0	.3	26.5	0	0	3	

TABLE IV. (continued)

Agropyron smithii Study Area Horse Creek Date 27 December 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	17.0	0	.3	27.3	0	0	1
2.	17.0	0	.3	24.0	0	0	4
3.	17.0	0	.3	23.5	0	0	2
4.	17.0	0	.3	19.2	0	0	4
5.	16.8	0	.3	15.0	0	0	2
6.	17.9	0	3	18.5	0	0	3
7.	16.8	0	.2	24.0	0	0	3
8.	17.0	0	.2	24.5	0	0	2
9.	17.0	0	.3	21.5	0	0	2
10.	17.0	0	.4	25.0	0	0	4
11.	17.0	0	.4	24.0	0	0	4
12.	17.0	0	.2	13.2	0	0	2
13.	17.0	0	.3	23.0	0	0	2
14.	17.0	0	.3	16.5	0	0	4
15.	17.0	0	.4	20.5	0	0	3
16.	17.0	0	.2	14.0	0	0	1
17.	17.0	0	.3	20.0	0	0	4
18.	17.0	0	.3	19.0	0	0	1
19.	17.0	0	.3	25.0	0	0	3
20.	17.0	0	.3	26.5	0	0	3

TABLE IV. (continued)

Agropyron spicatum Study Area Horse Creek Date 26 June 1973

PLANT No.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	CLUMP LGTH. cm.	CLUMP WIDTH cm.	CLUMP DIAM. cm.	MAX. LEAF WIDTH cm.	MAX. LEAF HGHT. cm.	MAX. SPIKE HGHT. cm.	NOS. SPIKE-LETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
1.	4.0	11.0	--	--	12.0	.4	38.0	44.0	5	18	--	intermediate-dense
2.	4.0	10.0	--	--	10.0	.4	31.3	36.0	6	21	--	intermediate-dense
3.	4.2	8.9	--	--	8.0	.3	31.6	33.0	4	8	--	intermediate-dense
4.	4.5	5.0	--	--	2.0	.2	21.5	0	0	0	--	young-decadent
5.	4.2	5.0	--	--	1.0	.2	19.0	0	0	0	--	young-decadent
6.	4.5	10.5	--	--	14.5	.3	30.0	31.0	6	5	--	old-sparse
7.	4.6	10.2	--	--	6.3	.3	46.0	45.5	6	2	--	intermediate-sparse
8.	4.0	10.0	--	--	12.0	.2	28.0	30.0	5	16	--	mature-dense
9.	4.3	10.1	--	--	2.0	.3	41.0	41.0	5	7	--	young-dense
10.	4.1	5.0	--	--	15.0	.3	34.0	0	0	0	--	old-sparse
11.	4.2	9.8	--	--	3.0	.3	32.0	39.0	6	6	--	young-sparse
12.	4.2	5.0	--	--	9.0	.2	20.0	0	0	0	--	old-sparse
13.	4.4	5.0	--	--	.5	.2	26.5	0	0	0	--	young-dense
14.	4.5	9.7	--	--	12.0	.3	47.0	54.0	7	8	--	mature-sparse
15.	4.2	9.5	--	--	4.5	.2	33.0	33.0	4	3	--	young-dense
16.	4.3	5.0	--	--	5.0	.4	25.0	0	0	0	--	young-dense
17.	4.3	5.0	--	--	1.0	.2	20.0	0	0	0	--	young-dense
18.	4.3	9.5	--	--	14.0	.3	32.0	38.0	5	3	--	intermediate-dense
19.	4.3	5.0	--	--	1.0	.3	31.0	0	0	0	--	young-dense
20.	4.3	5.0	--	--	3.0	.3	33.0	0	0	0	--	young-dense

TABLE IV. (continued)

Agropyron spicatum Study Area Horse Creek Date 2 August 1973

PLANT No.	PHENO. STAGE SCORE		CLUMP			MAX. LEAF WIDTH	MAX. LEAF HGHT.	MAX. SPIKE HGHT.	NOS. SPIKELETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
	VEG.	REPR.	LGTH. cm.	WIDTH cm.	DIAM. cm.	cm.	cm.	cm.				
1.	14.2	15.7	--	--	11.5	.3	40.4	44.5	7	20	--	mature-intermediate
2.	14.3	13.0	--	--	8.0	.3	35.8	34.5	7	23	--	mature-dense
3.	14.2	13.5	--	--	6.0	.3	37.5	37.0	4	6	--	intermediate-dense
4.	14.1	0	--	--	1.5	.2	22.1	0	0	0	--	young-dense
5.	14.1	0	--	--	1.0	.2	18.4	0	0	0	--	seedlings
6.	14.2	13.0	--	--	11.0	.3	29.5	31.5	7	5	--	mature-sparse
7.	14.2	13.4	--	--	6.4	.3	44.2	43.4	6	3	--	intermediate-dense
8.	14.2	13.5	--	--	13.8	.3	25.5	29.5	6	13	--	mature-dense
9.	14.2	13.7	--	--	2.0	.3	42.4	40.8	5	7	--	young-dense
10.	14.2	0	--	--	20.8	.3	38.2	0	0	0	--	mature-dense
11.	14.2	13.1	--	--	6.0	.3	33.5	49.7	7	5	--	young-sparse
12.	14.1	0	--	--	12.5	.2	24.8	0	0	0	--	mature-sparse
13.	14.2	0	--	--	6.5	.3	30.2	0	0	0	--	intermediate-dense
14.	14.2	13.3	--	--	9.8	.3	44.9	51.2	6	9	--	mature-intermediate (5 spikes eaten)
15.	14.2	13.1	--	--	6.0	.3	34.4	33.5	5	3	--	intermediate-dense
16.	14.2	0	--	--	5.7	.3	24.3	0	0	0	--	intermediate-sparse
17.	14.3	0	--	--	2.0	.2	19.2	0	0	0	--	young-dense
18.	14.2	13.2	--	--	10.5	.3	30.5	37.2	4	3	--	intermediate-intermediate
19.	14.2	0	--	--	1.2	.3	34.5	0	0	0	--	young-dense
20.	14.5	0	--	--	3.0	.3	36.5	0	0	0	--	young-dense

TABLE IV. (continued)

Agropyron spicatum Study Area Horse Creek Date 10 November 1973

PLANT No.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	CLUMP LGTH. cm.	CLUMP WIDTH cm.	CLUMP DIAM. cm.	MAX. LEAF WIDTH cm.	MAX. LEAF HGHT. cm.	MAX. SPIKE HGHT. cm.	NOS. SPIKE-LETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
1.	16.5	15.9	--	--	11.5	.3	35.0	42.0	7	20	--	mature-intermediate
2.	16.7	15.9	--	--	8.0	.3	35.8	34.5	7	23	--	mature-dense
3.	16.7	15.9	--	--	6.0	.4	37.5	37.0	4	6	--	intermediate-dense
4.	16.7	0	--	--	1.5	.2	22.1	0	0	0	--	young-dense
5.	16.7	0	--	--	1.0	.2	18.4	0	0	0	--	seedling
6.	16.6	15.9	--	--	11.0	.3	29.5	31.5	7	5	--	mature-sparse
7.	16.6	15.9	--	--	6.4	.3	44.3	43.4	6	3	--	intermediate-dense
8.	16.7	15.9	--	--	13.8	.3	25.5	29.5	6	13	--	mature-dense
9.	16.6	15.9	--	--	2.0	.3	42.4	40.8	5	7	--	young-dense
10.	16.8	0	--	--	20.8	.3	38.2	0	0	0	--	mature-dense
11.	16.8	15.9	--	--	6.0	.2	33.5	49.7	7	5	--	young-sparse
12.	16.8	0	--	--	12.5	.2	24.8	0	0	0	--	mature-sparse
13.	16.6	0	--	--	6.5	.2	30.2	0	0	0	--	intermediate-dense
14.	16.7	15.9	--	--	9.8	.3	44.9	51.2	6	9	--	mature-intermediate
15.	16.6	15.9	--	--	6.0	.2	34.4	33.5	5	3	--	intermediate-dense
16.	16.6	0	--	--	5.7	.3	21.0	0	0	0	--	intermediate-sparse
17.	16.5	0	--	--	2.0	.2	19.2	0	0	0	--	young-dense
18.	16.6	15.0	--	--	10.5	.3	24.0	37.2	4	3	--	intermediate-intermediate
19.	16.6	0	--	--	1.2	.2	34.5	0	0	0	--	young-dense
20.	16.8	0	--	--	3.0	.2	36.5	0	0	0	--	young-dense

TABLE IV. (continued)

Agropyron spicatum Study Area Horse Creek Date 30 November 1973

PLANT No.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	CLUMP LGTH. cm.	CLUMP WIDTH cm.	CLUMP DIAM. cm.	MAX. LEAF WIDTH cm.	MAX. LEAF HGHT. cm.	MAX. SPIKE HGHT. cm.	NOS. SPIKE-LETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
1.	16.5	15.9	--	--	11.5	.3	35.0	42.0	7	20	--	mature-intermediate
2.	16.6	15.9	--	--	8.0	.3	35.8	34.5	7	23	--	mature-dense
3.	16.5	15.9	--	--	6.0	.4	37.5	37.0	4	6	--	intermediate-dense
4.	16.5	0	--	--	1.5	.2	22.1	0	0	0	--	young-dense
5.	16.5	0	--	--	1.0	.2	18.4	0	0	0	--	seedling
6.	16.6	15.9	--	--	11.0	.3	29.5	31.5	7	5	--	mature-sparse
7.	16.5	15.9	--	--	6.4	.3	44.3	43.4	6	3	--	intermediate-dense
8.	16.5	15.9	--	--	13.8	.3	25.5	29.5	6	13	--	mature-dense
9.	16.6	15.9	--	--	2.0	.3	42.4	40.8	5	7	--	young-dense
10.	16.7	15.9	--	--	20.8	.3	38.2	0	0	0	--	mature-dense
11.	16.7	15.9	--	--	6.0	.2	33.5	49.7	7	5	--	young-dense
12.	16.7	0	--	--	12.5	.2	24.8	0	0	0	--	mature-sparse
13.	16.5	0	--	--	6.5	.2	30.2	0	0	0	--	intermediate-dense
14.	16.6	15.9	--	--	9.8	.3	44.9	51.2	6	9	--	mature-intermediate
15.	16.5	15.7	--	--	6.0	.2	34.4	33.5	5	3	--	intermediate-dense
16.	16.5	0	--	--	5.7	.3	21.0	0	0	0	--	intermediate-sparse
17.	16.7	0	--	--	2.0	.2	19.2	0	0	0	--	young-dense
18.	16.5	15.9	--	--	10.5	.3	24.0	37.2	4	3	--	intermediate-intermediate
19.	16.5	0	--	--	1.2	.2	34.5	0	0	0	--	young-dense
20.	15.5	15.9	--	--	3.0	.2	36.5	0	0	0	--	young-dense

TABLE IV. (continued)

Agropyron spicatum Study Area Horse Creek Date 27 December 1973

PLANT No.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	CLUMP LGTH. cm.	CLUMP WIDTH cm.	CLUMP DIAM. cm.	MAX. LEAF WIDTH cm.	MAX. LEAF HGHT. cm.	MAX. SPIKE HGHT. cm.	NOS. SPIKELETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
1.	17.0	17.0	--	--	11.5	.3	35.0	42.0	7	20	--	mature-intermediate
2.	17.0	17.0	--	--	8.0	.3	35.8	34.5	7	23	--	mature-dense
3.	17.0	17.0	--	--	6.0	.4	37.5	37.0	4	5	--	intermediate-dense
4.	17.0	17.0	--	--	1.5	.2	22.1	0	0	0	--	young-dense
5.	17.0	17.0	--	--	1.0	.2	18.4	0	0	0	--	seedling
6.	17.0	17.0	--	--	11.0	.4	29.5	31.5	7	5	--	mature-sparse
7.	17.0	0	--	--	6.4	.4	44.3	43.4	6	3	--	intermediate-dense
8.	17.0	17.0	--	--	13.8	.4	25.5	29.5	6	13	--	mature-dense
9.	17.0	17.0	--	--	2.0	.4	42.4	40.8	5	7	--	young-dense
10.	17.0	0	--	--	20.8	.4	38.2	0	0	0	--	mature-dense
11.	17.0	17.0	--	--	6.0	.2	33.5	49.7	7	5	--	young-sparse
12.	17.0	0	--	--	12.5	.2	24.8	0	0	0	--	mature-sparse
13.	17.0	17.0	--	--	6.5	.2	30.2	0	0	0	--	intermediate-dense
14.	17.0	17.0	--	--	9.8	.3	44.9	51.2	6	9	--	mature-intermediate
15.	17.0	17.0	--	--	6.0	.2	34.4	33.5	5	3	--	intermediate-dense
16.	17.0	0	--	--	5.7	.3	21.0	0	0	0	--	intermediate-sparse
17.	17.0	0	--	--	2.0	.2	19.2	0	0	0	--	young-dense
18.	17.0	17.0	--	--	10.5	.3	24.0	37.2	4	3	--	intermediate-intermediate
19.	17.0	17.0	--	--	1.2	.2	34.5	0	0	0	--	young-dense
20.	17.0	17.0	--	--	3.0	.2	36.5	0	0	0	--	young-dense

TABLE IV. (continued)

Artemisia nova Study Area Horse Creek Date 26 June 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.	
	VEG.	REPR.									
1.	2.8	0	31.0	30.0	18.0	24.0	4	30	0	0	
2.	3.2	0	31.0	65.0	15.0	35.0	5	80	25.	0	
3.	3.3	0	13.5	18.0	5.0	11.5	2	10	6.0	0	
4.	3.3	0	28.0	52.0	24.0	38.0	3	15	4.0	0	
5.	3.4	0	19.0	32.0	18.0	25.0	3	10	4.5	0	
6.	3.2	0	25.0	35.0	15.0	25.0	3	15	9.0	0	only 4 stalks on total plant
7.	3.3	0	45.0	109.0	83.0	96.0	5	20	10.0	0	
8.	2.6	0	10.5	23.0	13.0	18.0	2	0	0	0	
9.	3.4	0	23.5	34.0	26.0	30.0	5	60	5.0	0	
10.	2.5	0	17.0	42.0	13.0	27.5	5	65	0	0	
11.	3.5	0	50.3	102.0	56.0	78.0	4	15	10.0	0	
12.	3.1	0	20.5	43.0	27.0	35.0	3	15	3.0	0	
13.	3.5	0	6.0	6.0	4.0	5.0	2	0	0	0	
14.	2.3	0	3.0	6.0	2.0	4.0	2	0	0	0	Big Sage 70'7 L 5'8
15.	3.4	0	21.5	56.0	13.0	34.5	5	30	6.0	0	
16.	3.4	0	29.0	51.0	18.0	34.5	4	15	6.0	0	
17.	2.3	0	9.0	15.0	11.0	13.0	5	90	0	0	
18.	3.4	0	21.0	34.0	21.0	22.5	3	5	4.0	0	
19.	3.6	0	26.0	54.5	18.0	36.5	5	20	5.0	0	
20.	2.3	0	3.5	4.5	3.5	4.0	1.5	0	0	0	

TABLE IV. (continued)

Artemisia nova Study Area Horse Creek Date 2 August 1974

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.6	5.3	29.4	38.2	16.0	27.1	4	30	.5	8.5
2.	3.6	5.2	21.4	82.0	18.0	50.0	5	80	.5	5.5
3.	3.6	5.4	11.0	14.9	6.5	10.7	2	10	.5	7.0
4.	3.6	5.3	26.7	49.2	23.5	36.35	3	15	.5	6.5
5.	3.6	5.4	23.4	34.8	21.2	28.0	3	10	.5	7.5
6.	3.5	5.2	24.7	37.5	17.0	27.25	3	15	.5	11.0
7.	3.6	5.3	42.8	118.5	65.3	91.9	5	20	.5	11.8
8.	3.6	0	10.0	23.0	13.2	18.1	2	0	.5	0
9.	3.5	5.4	26.4	48.0	25.6	36.8	5	60	.5	8.0
10.	3.5	5.3	16.4	40.3	15.0	27.85	5	65	.5	8.5
11.	3.6	5.4	40.7	102.7	54.5	78.6	4	15	.5	13.0
12.	3.5	5.4	23.4	41.0	27.0	34.0	3	15	.5	7.8
13.	3.5	0	7.0	6.6	4.5	5.55	2	0	.5	0
14.	3.6	5.4	12.3	34.3	11.3	22.8	2	0	.2	11.5
15.	3.5	5.4	21.9	18.5	12.0	15.25	5	30	1.0	8.5
16.	3.6	5.4	28.8	49.3	22.0	35.65	4	15	1.0	9.5
17.	3.5	0	10.0	16.3	6.0	11.15	5	90	.5	0
18.	3.5	5.4	18.7	37.0	23.6	30.3	3	5	.5	7.0
19.	3.5	5.4	30.8	67.8	19.0	43.4	5	20	.5	8.0
20.	3.5	0	3.4	4.9	3.0	3.95	1.5	0	.5	0

TABLE IV. (continued)

Artemisia nova Study Area Horse Creek Date 10 November 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.	
	VEG.	REPR.									
1.	14.7	15.8	41.0	30.0	16.0	27.1	4	30	1.0	15.5	
2.	14.7	15.5	25.0	65	18.0	50.0	5	80	1.5	7.0	
3.	14.8	15.6	13.0	18.0	6.5	10.7	2	10	.5	5.0	(black rust) dying
4.	14.7	15.4	33.0	52.0	23.0	36.35	3	15	1.5	8.0	
5.	14.6	15.6	22.0	32.0	21.2	28.0	3	10	.5	7.0	
6.	14.7	15.7	36.0	35.0	17.0	27.25	3	15	1.5	9.0	
7.	14.7	15.7	42.8	109.0	65.3	91.9	5	20	2.0	9.0	
8.	14.6	-	10.0	23.0	13.2	18.1	2	0	1.0	0	
9.	14.7	15.8	32.0	34.0	26.0	30.0	5	60	1.0	9.0	
10.	14.7	0	15.0	42.0	13.0	27.5	5	65	.5	0	
11.	14.7	15.6	58.0	102.0	56.0	78.0	4	15	2.0	12.0	
12.	14.7	15.9	25.0	43.0	27.0	35.0	3	15	.5	10.0	
13.	14.5	0	6.0	6.0	4.5	5.55	2	0	1.0	0	
14.	14.3	0	3.5	34.3	11.3	22.8	2	0	.5	0	
15.	14.8	15.8	30.0	56.0	13.0	34.5	5	30	1.0	10.0	(black rust) dying
16.	14.6	15.5	34.0	51.0	18.0	34.5	4	15	1.0	9.0	
17.	14.7	15.8	35.0	15.0	11.0	13.0	5	90	.5	9.0	
18.	14.7	15.5	23.5	34.0	21.0	22.5	3	5	.5	9.0	
19.	14.7	15.5	28.0	54.5	18.0	36.5	5	20	1.0	8.0	
20.	14.5	0	4.0	5.0	3.5	4.3	1.5	0	1.0	0	

TABLE IV. (continued)

Artemisia nova Study Area Horse Creek Date 30 November 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	14.6	15.8	41.0	30.0	16.0	27.1	4	30	1.0	15.5
2.	14.7	15.9	25.0	65.0	18.0	50.0	5	80	1.5	7.0
3.	14.7	15.6	13.0	18.0	6.5	10.7	2	10	.5	5.0
4.	14.6	15.8	33.0	52.0	23.0	36.35	3	15	1.5	8.0
5.	14.6	15.8	22.0	32.0	21.2	28.0	3	10	.5	7.0
6.	14.5	15.5	36.0	35.0	17.0	27.25	3	15	1.5	9.0
7.	14.6	15.8	42.8	109.0	65.3	91.9	5	20	2.0	9.0
8.	14.6	0	10.0	23.0	13.2	18.1	2	0	1.0	0
9.	14.7	15.8	32.0	34.0	26.0	30.0	5	60	1.0	9.0
10.	14.7	15.9	15.0	42.0	13.0	27.0	5	65	.5	0
11.	14.6	15.8	58.0	102.0	56.0	78.0	4	15	2.0	12.0
12.	14.7	15.9	25.0	43.0	27.0	35.0	3	15	.5	10.0
13.	14.6	0	7.0	6.0	4.5	5.55	2	0	1.0	0
14.	14.5	0	3.5	34.3	11.3	22.8	2	0	.5	0
15.	14.6	15.9	30.0	56.0	13.0	34.5	5	30	1.0	10.0
16.	14.6	15.7	34.0	51.0	18.0	34.5	4	15	1.0	9.0
17.	14.6	15.8	35.0	15.0	11.0	13.0	5	90	.5	9.0
18.	41.7	15.8	23.5	34.0	21.0	22.5	3	5	.5	7.0
19.	41.6	15.6	28.0	54.5	18.0	36.5	5	20	1.0	8.0
20.	14.5	0	4.0	5.0	3.5	4.3	1.5	0	1.0	0

TABLE IV. (continued)

Artemisia nova   Study Area Horse Creek   Date 27 December 1973

PLANT NO.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.	
1.	14.7	15.9	41.0	30.0	16.0	27.0	4	30	1.0	15.5	
2.	14.7	0	25.0	65.0	18.0	50.0	5	80	1.5	7.0	
3.	14.8	15.9	13.0	18.0	6.5	10.7	2	10	.5	5.0	
4.	14.7	15.9	33.0	52.0	23.0	36.35	3	15	1.5	8.0	
5.	14.7	15.9	22.0	32.0	31.3	28.0	3	10	.5	7.0	
6.	14.7	15.8	26.0	35.0	17.0	27.25	3	15	1.5	9.0	
7.	14.7	15.9	42.8	109.0	65.3	91.9	5	20	2.0	9.0	
8.	14.7	0	10.0	23.0	13.2	18.1	2	0	1.0	0	
9.	14.7	15.9	32.0	34.0	26.0	30.0	5	60	1.0	9.0	
10.	14.7	0	15.0	42.0	13.0	27.0	5	65	.5	0	
11.	14.6	15.9	58.0	102.0	56.0	78.0	4	15	2.0	12.0	
12.	14.7	15.9	25.9	43.0	27.0	35.0	3	15	.5	10.0	
13.	14.6	0	7.0	6.0	4.5	5.55	2	0	1.0	0	Broken off
14.	14.8	0	3.5	34.3	11.3	22.8	2	0	.5	0	
15.	14.7	15.9	30.0	56.0	13.0	34.5	5	30	1.0	10.0	
16.	14.7	15.9	34.0	51.0	18.0	34.5	4	15	1.0	9.0	
17.	14.6	0	35.0	15.0	11.0	13.0	5	90	.5	9.0	Dead
18.	14.7	15.9	23.5	34.0	21.0	22.5	3	5	.5	7.0	
19.	14.7	15.8	28.0	54.5	18.0	36.5	5	20	1.0	8.0	
20.	14.7	0	4.0	5.0	3.5	4.3	1.5	0	1.0	0	

TABLE IV. (continued)

Artemisia tridentata Study Area Horse Creek Date 26 June 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.2	0	46.0	73.0	45.0	59.0	5	60	3.0	0
2.	3.2	0	29.0	92.0	32.0	62.0	5	50	3.5	0
3.	3.6	0	25.0	20.0	10.0	15.0	5	70	4.0	0
4.	3.6	0	55.0	58.0	49.0	53.5	4	15	4.0	0
5.	2.9	0	11.0	12.0	6.0	9.0	3	5	0	0
6.	2.9	0	16.0	13.0	9.0	11.0	3	10	0	0
7.	3.1	0	50.0	67.0	38.0	57.5	4	15	1.0	0
8.	2.7	0	8.0	12.0	7.0	9.5	3	15	0	0
9.	3.1	0	28.0	61.0	20.0	40.5	4	25	1.5	0
10.	3.3	0	23.0	45.0	10.0	27.5	5	45	2.0	0
11.	3.3	0	23.0	44.0	15.0	29.5	3	10	2.0	0
12.	2.7	0	17.0	23.0	10.0	16.5	5	35	0	0
13.	3.3	0	15.0	13.0	6.0	9.5	2	2	3.0	0
14.	3.8	0	39.0	70.0	38.0	50.4	5	50	6.0	0
15.	2.9	0	15.0	17.0	10.0	13.5	2	5	0	0
16.	3.0	0	40.0	53.0	28.0	40.5	5	30	9.0	0
17.	2.6	0	42.0	43.0	30.0	26.5	5	85	0	0
18.	3.6	0	26.0	38.0	15.0	26.5	5	60	4.0	0
19.	3.2	0	13.0	17.0	9.0	13.0	5	55	2.0	0
20.	2.9	0	17.0	15.0	10.0	12.0	5	90	0	0

TABLE IV. (continued)

Artrmisia tridentata Study Area Horse Creek Date 2 August 1972

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.6	5.3	47.8	80.0	28.0	54.0	5	60	1.0	4.2
2.	3.6	5.3	28.5	95.0	48.0	71.5	5	50	2.0	6.5
3.	3.5	5.4	20.7	20.5	10.0	15.25	5	70	1.0	6.0
4.	3.7	5.4	53.2	76.4	41.0	58.7	4	15	2.0	7.2
5.	3.3	0	9.5	12.2	5.8	9.0	3	5	.5	0
6.	3.5	0	16.4	17.0	10.0	23.5	3	10	1.0	0
7.	3.6	0	49.6	68.0	21.5	44.75	4	15	1.0	0
8.	3.6	5.4	38.5	94.7	28.0	61.35	3	15	3.0	7.5
9.	3.5	5.3	27.2	60.6	29.0	44.8	4	25	.5	5.0
10.	3.5	5.2	20/7	49.2	12.4	30.8	5	45	1.0	4.0
11.	3.6	5.3	27.7	47.4	19.5	33.45	4	10	4.0	5.0
12.	3.3	0	17.0	27.6	5.6	16.6	5	35	.5	0
13.	3.6	0	17.3	13.8	5.2	9.5	2	2	3.0	0
14.	3.5	5.3	37.0	75.5	31.3	53.4	5	50	4.0	11.5
15.	3.5	0	15.2	17.6	9.0	13.3	2	5	1.0	0
16.	3.6	5.4	40.0	63.8	24.0	43.8	5	40	3.5	10.5
17.	3.3	0	46.7	44.0	7.5	25.75	5	85	1.0	0
18.	3.5	5.3	26.1	41.5	8.0	24.75	5	60	2.0	12.0
19.	3.5	5.2	14.0	15.3	4.0	9.65	5	55	.5	6.0
20.	3.5	0	18.2	16.0	11.0	13.5	5	90	1.0	0

TABLE IV. (continued)

Artemisia tridentata Study Area Horse creek Date 10 November1973

PLANT NO.	PHENO. STAGE SCORE VEG.	REPR.	PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
1.	14.5	13.0	47.8	80.0	28.0	54.0	5	60	2.0	6.0
2.	14.7	0	28.5	95.0	48.0	71.5	5	50	1.0	0
3.	14.7	15.5	23.0	20.5	10.0	15.25	5	70	1.0	7.0
4.	14.7	15.3	63.0	76.4	41.0	58.7	4	15	3.0	8.0
5.	14.5	0	9.5	12.2	5.8	9.0	3	5	2.0	0
6.	14.5	0	16.4	17.0	10.0	23.5	3	10	1.5	0
7.	14.7	0	48.0	16.0	21.5	44.75	4	15	2.5	0
8.	14.6	0	2.0	95.7	28.0	61.35	3	15	.5	0
9.	14.7	15.6	27.0	60.6	29.0	44.8	4	25	1.5	3.0
10.	14.7	15.8	21.0	49.2	12.4	30.8	5	45	3.0	5.0
11.	14.6	13.8	27.7	47.4	19.5	33.45	3	10	2.0	5.0
12.	14.8	0	17.0	27.6	5.6	16.6	5	35	.5	0
13.	14.5	0	19.0	13.8	5.2	9.5	2	50	4.0	0
14.	14.8	15.7	38.0	75.5	31.3	53.4	5	50	3.0	11.5
15.	14.6	0	16.0	17.6	9.0	13.3	2	5	1.0	0
16.	14.7	15.7	36.0	63.8	24.0	43.8	5	40	2.0	10.0
17.	14.8	0	45.0	44.0	7.5	25.75	5	85	.5	0
18.	14.8	15.7	25.0	41.5	8.0	24.75	5	60	.5	3.0
19.	14.7	15.2	14.0	15.3	4.0	9.65	5	55	1.0	4.0
20.	14.6	0	19.0	16.0	11.0	13.5	5	90	2.0	0

TABLE IV. (continued)

Artemisia tridentata Study Area Horse Creek Date 30 November 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	14.6	15.7	47.8	80.0	28.0	54.0	5	60	2.0	6.0
2.	14.7	15.8	28.5	95.0	48.0	71.5	5	50	1.0	0
3.	14.7	15.8	23.0	20.5	10.0	15.25	5	70	1.0	7.0
4.	14.7	15.8	63.0	76.4	41.0	58.7	4	15	3.0	8.0
5.	14.7	0	9.5	12.2	5.8	9.0	3	5	2.0	0
6.	14.6	0	16.4	17.0	10.0	23.5	3	10	1.5	0
7.	14.7	0	48.0	68.0	21.5	44.75	4	15	2.5	0
8.	14.7	0	2.0	94.7	28.0	61.35	3	15	.5	0
9.	14.7	15.8	27.0	60.6	29.0	44.8	4	25	1.5	3.0
10.	14.7	15.7	21.0	49.2	12.4	30.8	5	45	3.0	5.0
11.	14.6	15.7	27.7	47.4	19.5	33.45	3	1o	2.0	5.0
12.	14.7	0	17.0	27.6	5.6	16.6	5	35	.5	0
13.	14.6	0	19.0	13.8	5.2	9.5	2	2	4.0	0
14.	14.7	15.9	38.0	75.5	31.3	53.4	5	50	3.0	11.5
15.	14.6	0	16.0	17.6	9.0	13.3	2	5	1.0	0
16.	14.7	15.7	36.0	63.8	24.0	43.8	5	40	2.0	10.0
17.	14.8	0	45.0	44.0	7.5	25.75	5	85	.5	0
18.	14.8	15.7	25.0	41.5	8.0	24.75	5	60	.5	3.0
19.	14.7	15.7	14.0	15.3	4.0	9.65	5	55	1.0	4.0
20.	14.7	0	19.0	16.0	11.0	13.5	5	90	2.0	0

TABLE IV. (continued)

Artemisia tridentata   Study Area Horse Creek   Date 27 December1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	14.8	15.9	48.8	80.0	28.0	54.0	5	60	2.0	6.0
2.	14.8	15.9	28.5	95.0	48.0	71.5	5	50	1.0	0
3.	14.8	15.9	23.0	20.5	10.0	15.25	5	70	1.0	7.0
4.	14.8	15.8	63.0	76.4	41.0	58.7	4	15	3.0	8.0
5.	14.8	0	9.5	12.2	5.8	9.0	3	5	2.0	0
6.	14.8	0	16.4	17.0	10.0	23.5	3	10	1.5	0
7.	14.8	15.9	48.0	68.0	21.5	44.75	4	15	2.5	0
8.	14.8	0	2.0	94.7	28.0	61.35	3	15	.5	0
9.	14.7	15.9	27.0	60.6	29.0	44.8	4	25	1.5	3.0
10.	14.8	15.9	21.0	49.2	12.4	30.8	5	45	3.0	5.0
11.	14.8	0	27.7	47.4	19.5	33.45	4	10	2.0	5.0
12.	14.8	0	17.0	27.6	5.6	16.6	5	35	.5	0
13.	14.8	0	19.0	13.8	5.2	9.5	2	2	4.0	0
14.	14.8	15.9	38.0	75.5	31.3	53.4	5	50	3.0	11.5
15.	14.8	0	16.0	17.6	9.0	13.3	2	5	1.0	0
16.	14.8	15.9	36.0	63.8	24.0	43.8	5	40	2.0	10/0
17.	14.9	0	45.0	44.0	7.5	25.75	5	85	.5	0
18.	14.8	0	25.0	41.5	8.0	24.75	5	60	.5	3.0
19.	14.8	0	14.0	15.3	4.0	9.65	5	55	1.0	4.0
20.	14.8	0	19.0	16.0	11.0	13.5	5	90	2.0	0

TABLE IV. (continued)

Agropyron smithii Study Area Mesa Antelope Date 27 June 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.8	0	.1	24.5	0	0	1	
2.	4.3	0	.1	13.3	0	0	1	
3.	3.3	0	.1	13.0	0	0	2	
4.	3.4	0	.2	19.1	0	0	2	
5.	3.5	0	.2	20.1	0	0	2	
6.	3.7	0	.2	17.6	0	0	1	
7.	3.5	0	.1	16.2	0	0	2	
8.	3.9	0	.3	24.0	0	0	1	
9.	3.1	0	.2	20.9	0	0	1	
10.	3.0	0	.1	11.4	0	0	1	
11.	1.9	0	.1	12.0	0	0	1	
12.	3.3	0	.2	17.9	0	0	3	
13.	3.8	0	.2	16.1	0	0	1	
14.	3.6	0	.3	27.2	0	0	1	
15.	3.4	0	.1	14.0	0	0	2	
16.	3.9	0	.1	19.1	0	0	2	
17.	3.2	0	.2	20.0	0	0	2	20% of leaf 2 is eaten
18.	3.2	0	.1	9.8	0	0	2	
19.	3.4	0	.1	14.0	0	0	1	
20.	3.4	0	.1	12.0	0	0	2	

TABLE IV. (continued)

Agropyron smithii Study Area Mesa Antelope Date 31 July 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	14.9	0	.1	24.0	0	1	1
2.	14.9	0	.1	12.2	0	2	1
3.	41.5	0	.1	13.1	0	2	2
4.	14.1	0	.2	19.1	0	2	2
5.	14.0	0	.2	18.9	0	2	2
6.	41.2	0	.2	17.4	0	1	1
7.	14.0	0	.2	17.5	0	2	2
8.	14.1	0	.2	24.5	0	1	1
9.	14.2	0	.2	20.6	0	1	1
10.	14.0	0	.2	12.0	0	1	1
11.	14.8	0	.1	12.0	0	1	1
12.	14.1	0	.2	18.9	0	3	3
13.	14.1	0	.2	15.9	0	1	1
14.	14.2	0	.2	27.2	0	1	1
15.	14.1	0	.1	20.2	0	2	2
16.	14.1	0	.1	19.5	0	2	2
17.	14.1	0	.2	20.7	0	2	2
18.	14.1	0	.1	10.1	0	2	2
19.	14.1	0	.1	14.1	0	1	1
20.	14.1	0	.1	12.5	0	2	2

TABLE IV. (continued)

Agropyron smithii Study Area Mesa Antelope Date 15 August 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	14.0	0	.2	24.0	0	1	1
2.	14.5	0	.3	12.0	0	2	1
3.	14.5	0	.1	12.5	0	2	2
4.	14.0	0	.2	19.0	0	2	2
5.	41.3	0	.2	19.8	0	2	2
6.	14.2	0	.2	17.6	0	1	1
7.	14.0	0	.1	17.2	0	2	2
8.	41.2	0	.2	24.2	0	1	1
9.	14.2	0	.2	21.0	0	1	1
10.	14.0	0	.1	11.6	0	1	1
11.	14.8	0	.1	11.8	0	1	1
12.	14.2	0	.2	15.5	0	3	4
13.	14.2	0	.1	15.6	0	1	1
14.	14.0	0	.2	24.5	0	1	1
15.	14.0	0	.1	16.0	0	2	2
16.	14.0	0	.2	18.6	0	2	2
17.	14.0	0	.2	20.8	0	2	2
18.	14.0	0	.1	10.2	0	2	2
19.	14.0	0	.1	14.4	0	1	1
20.	14.0	0	.2	13.5	0	2	2

TABLE IV. (continued)

Artemisia tridentata Study Area Mesa Antelope Date 27 June 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.2	0	16.0	46.0	20.0	33.0	3	10	3.0	0
2.	3.4	0	21.0	47.0	27.0	37.0	4	10	5.0	0
3.	3.7	0	30.0	72.0	48.0	60.0	4	5	6.0	0
4.	3.4	0	14.5	28.0	7.0	17.5	5	85	3.5	0
5.	2.8	0	11.0	24.0	15.0	19.5	3	5	0	0
6.	3.5	0	16.0	32.0	17.0	19.5	3	2	4.5	0
7.	3.3	0	16.5	39.5	27.0	33.2	3	2	3.5	0
8.	3.7	0	26.5	15.0	9.0	12.0	3	10	6.0	0
9.	3.7	0	22.0	51.0	25.0	28.0	4	10	5.0	0
10.	3.5	0	15.0	22.0	15.0	18.5	3	5	2.5	0
11.	3.2	0	8.0	15.0	10.0	12.5	2	2	1.0	0
12.	3.6	0	19.0	58.0	15.0	36.5	5	40	2.5	0
13.	3.5	0	20.5	34.0	16.0	25.0	4	20	3.0	0
14.	3.4	0	22.0	50.5	19.0	35.0	5	40	1.5	0
15.	3.1	0	9.5	24.5	10.0	17.2	3	15	.5	0
16.	3.3	0	15.5	26.0	13.0	34.5	5	15	3.0	0
17.	3.1	0	16.5	52.0	21.0	36.5	5	30	.5	0
18.	3.2	0	13.0	46.5	11.0	28.5	3	5	1.5	0
19.	3.5	0	21.5	59.5	30.0	45.0	4	10	6.0	0
20.	3.3	0	12.5	37.5	11.0	24.0	3	30	2.0	0

TABLE IV. (continued)

Artemisia tridentata Study Area Mesa Antelope Date 31 July 1973

PLANT NO.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
1.	3.3	5.0	19.0	52.2	25.0	38.6	3	10	2.0	6.0
2.	3.2	5.0	16.0	47.0	27.0	37.0	4	10	1.0	6.0
3.	3.3	5.1	30.1	77.3	43.0	60.15	4	5	5.0	8.2
4.	3.3	0	14.6	30.5	8.0	19.25	5	85	3.2	0
5.	3.3	0	13.5	26.7	14.0	20.35	3	5	.5	0
6.	3.4	5.1	21.4	29.5	19.0	24.25	3	2	4.0	9.2
7.	3.4	5.0	17.2	38.3	27.0	32.65	3	2	3.5	8.5
8.	3.5	5.3	22.0	18.0	10.0	14.0	3	10	3.0	10.0
9.	3.4	5.2	22.0	53.0	32.0	42.5	4	10	5.0	11.2
10.	3.4	0	18.0	23.0	14.5	18.75	3	5	3.0	0
11.	3.3	0	9.8	14.7	12.5	13.6	2	2	1.0	0
12.	3.3	5.1	24.3	59.0	21.0	40.0	5	40	2.0	9.7
13.	3.4	0	25.0	27.5	12.0	19.75	4	20	3.5	0
14.	3.4	5.1	28.4	61.6	43.2	52.4	5	40	1.5	10.0
15.	3.3	0	13.0	25.0	14.5	19.75	3	15	.5	0
16.	3.3	5.1	20.0	30.2	17.0	23.6	5	15	1.0	7.5
17.	3.3	0	16.8	51.7	26.0	38.85	5	30	1.0	0
18.	3.4	0	15.3	39.9	11.0	25.45	3	5	1.5	0
19.	3.4	5.2	22.5	58.0	30.0	44.0	4	10	3.0	9.5
20.	3.4	0	14.5	20.7	13.7	17.2	3	30	1.0	0

TABLE IV. (continued)

Artemisia tridentata Study Area Mesa Antelope Date 15 August 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.3	5.5	19.0	40	20	30.0	3	10	2.0	6.0
2.	3.5	5.5	26.0	47	27	37.0	4	10	2.0	8.0
3.	3.5	5.6	36.0	72	48	60.0	4	5	3.0	7.5
4.	3.5	0	14.5	28	7	17.5	5	85	3.5	0
5.	3.4	0	12.0	24	15	19.5	3	5	1.0	0
6.	3.5	5.3	23.0	32	17	19.5	3	2	4.0	8.5
7.	3.5	5.6	24.0	39.5	27	33.2	3	2	2.0	9.0
8.	3.5	5.7	29.0	15	0	12.0	3	10	3.0	11.0
9.	3.4	5.4	25.0	51	25	38.0	4	10	3.0	7.0
10.	3.3	0	16.0	22	15	18.5	3	5	2.5	0
11.	3.4	0	10.0	15	10	12.5	2	2	1.5	0
12.	3.5	5.4	27.0	58	15	36.5	5	40	1.0	8.0
13.	3.4	0	24.0	34	16	25.0	4	20	3.0	0
14.	3.4	5.4	31.0	50.5	10	35.0	5	40	1.0	9.0
15.	3.3	0	13.0	24.5	16	17.2	3	15	1.5	0
16.	3.4	5.4	24.0	56	13	34.5	3	15	1.5	7.0
17.	3.4	0	14.0	52	21	36.5	5	30	2.5	0
18.	3.4	5.5	15.0	46.5	11	28.5	3	5	1.5	5.0
19.	3.5	5.5	27.0	59.5	30	45.0	4	10	1.0	9.5
20.	3.5	0	12.0	37.5	11	24.0	3	30	1.5	0

TABLE IV. (continued)

Agropyron smithii Study Area Owl Draw Date 16 July 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKELETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	4.3	5.0	4.0	20.7	--	--	1
2.	4.1	0	3.0	14.0	--	--	1
3.	4.3	5.0	4.0	22.9	--	--	1
4.	14.0	5.0	3.0	19.0	--	--	1
5.	4.2	0	4.0	22.3	--	--	1
6.	3.3	0	3.0	24.4	--	--	3
7.	3.0	0	3.0	18.2	--	--	1
8.	3.6	0	2.0	21.2	--	--	2
9.	3.6	0	3.0	24.1	--	--	5
10.	3.5	0	3.0	12.4	--	--	1
11.	4.2	0	3.0	19.8	--	--	2
12.	4.0	0	3.0	17.7	--	--	2
13.	4.1	0	4.0	19.8	--	--	2
14.	4.1	0	4.0	18.3	--	--	2
15.	4.2	0	4.0	21.9	--	--	4
16.	3.6	0	3.0	21.3	--	--	4
17.	4.5	5.0	4.0	27.0	--	--	1
18.	3.6	0	3.0	15.2	--	--	1
19.	3.1	0	3.0	19.5	--	--	1
20.	3.3	0	3.0	18.3	--	--	1

TABLE IV. (continued)

Agropyron smithii Study Area Owl Draw Date 3 August 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	14.0	0	.4	20.8	--	--	1
2.	14.1	0	.3	13.7	--	--	1
3.	14.1	0	.4	23.3	--	--	1
4.	14.1	0	.3	18.9	--	--	1
5.	14.1	0	.4	22.3	--	--	1
6.	14.1	0	.3	25.0	--	--	3
7.	14.1	0	.3	18.4	--	--	1
8.	14.1	0	.2	20.3	--	--	2
9.	14.1	0	.3	24.0	--	--	6
10.	14.2	0	.2	13.5	--	--	1
11.	14.2	0	.3	19.8	--	--	2
12.	14.1	0	.3	17.5	--	--	2
13.	14.2	0	.3	20.0	--	--	2
14.	14.1	0	.3	19.1	--	--	2
15.	14.1	0	.3	20.8	--	--	4
16.	14.0	0	.4	21.6	--	--	4
17.	14.0	0	.4	27.2	--	--	1
18.	14.1	0	.2	16.4	--	--	2
19.	14.1	0	.3	20.1	--	--	2
20.	14.2	0	.3	18.0	--	--	1

TABLE IV. (continued)

Agropyron spicatum Study Area Owl Draw Date 16 July 1973

PLANT No.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	CLUMP LGTH. cm.	CLUMP WIDTH cm.	CLUMP DIAM. cm.	MAX. LEAF WIDTH cm.	MAX. LEAF HGHT. cm.	MAX. SPIKE HGHT. cm.	NOS. SPIKELETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
1.	4.4	11.5	--	--	7.5	3.0	23.0	29.0	4.5	2	--	intermediate-sparse
2.	4.3	11.5	--	--	1.0	3.0	23.1	26.4	4.5	1	--	young-dense
3.	3.2	0	--	--	.5	2.0	22.6	0	0	0	3	seedling
4.	3.4	0	--	--	.2	2.0	13.1	0	0	0	1	seedling
5.	3.1	0	--	--	.2	2.0	16.0	0	0	0	1	seedling
6.	3.0	0	--	--	.2	3.0	14.4	0	0	0	1	seedling
7.	3.2	0	--	--	.7	3.0	32.4	0	0	0	--	young-dense
8.	3.1	0	--	--	.2	2.0	18.0	0	0	0	2	seedling
9.	3.2	0	--	--	.3	3.0	27.5	0	0	0	2	seedling
10.	3.2	0	--	--	.3	2.0	16.3	0	0	0	3	seedling
11.	3.2	0	--	--	.3	2.0	15.4	0	0	0	2	seedling
12.	4.2	7.0	--	--	8.0	4.0	36.0	46.0	6.0	1	--	intermediate-intermediate
13.	3.0	0	--	--	.2	2.0	14.7	0	0	0	1	seedling
14.	4.2	5.0	--	--	9.6	3.0	22.2	0	0	0	--	old-sparse
15.	4.1	0	--	--	.3	3.0	12.8	0	0	0	3	seedling
16.	4.2	7.0	--	--	16.0	3.0	29.0	40.0	5.0	6	--	mature-sparse
17.	3.7	0	--	--	.2	3.0	16.7	0	0	0	1	seedling
18.	3.4	0	--	--	3.	3.0	16.8	0	0	0	3	seedling
19.	4.2	11.0	--	--	.7	3.0	26.2	32.5	5.5	2	--	young-dense
20.	3.2	0	--	--	.2	3.0	16.6	0	0	0	1	seedling

TABLE IV. (continued)

Agropyron spicatum   Study Area Owl Draw   Date 3 August 1973

PLANT No.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	CLUMP LGTH. cm.	CLUMP WIDTH cm.	CLUMP DIAM. cm.	MAX. LEAF WIDTH cm.	MAX. LEAF HGHT. cm.	MAX. SPIKE HGHT. cm.	NOS. SPIKELETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
1.	14.1	13.5	--	--	7.5	.3	23.6	27.0	4	2	--	young-dense
2.	41.2	13.5	--	--	1.0	.2	22.9	26.2	4	1	--	young-dense
3.	14.2	0	--	--	.5	.2	23.1	0	0	0	3	seedling
4.	14.2	0	--	--	.2	.1	13.7	0	0	0	1	seedling
5.	41.3	0	--	--	.2	.2	15.8	0	0	0	1	seedling
6.	14.1	0	--	--	.2	.2	15.0	0	0	0	1	seedling
7.	14.1	0	--	--	.7	.3	35.5	0	0	0	--	young-dense
8.	14.1	0	--	--	.2	.2	17.3	0	0	0	2	seedling
9.	14.2	0	--	--	.3	.2	27,8	0	0	0	2	seedling
10.	14.2	0	--	--	.3	.2	15.5	0	0	0	3	seedling
11.	14.3	0	--	--		.2	16.1	0	0	0	2	seedling
12.	14.1	13.5	--	--	10.7	.4	33.7	43.9	6	1	--	intermediate-sparse
13.	41.3	0	--	--	.2	.1	14.6	0	0	0	1	seedling
14.	14.0	0	--	--	5.8	.3	22.0	0	0	0	--	intermediate-sparse
15.	14.1	0	--	--	.3	.2	13.2	0	0	0	3	seedling
16.	14.2	15.1	--	--	18.2	.3	27.8	42.0	4	8	--	intermediate-dense
17.	14.1	0	--	--	.2	.2	15.7	0	0	0	1	seedling
18.	14.2	0	--	--	.3	.3	16.3	0	0	0	3	seedling
19.	14.2	15.1	--	--	1.0	.2	25.4	31.0	5	2	--	young-dense
20.	14.3	0	--	--	.2	.3	16.1	0	0	0	1	seedling

TABLE IV. (continued)

Artemisia nova Study Area Owl Draw Date 16 July 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.1	0	5.0	9.0	5.0	7.0	1	0	.5	0
2.	3.1	0	11.7	17.0	8.0	12.5	2	0	.6	0
3.	3.1	0	9.1	14.2	8.5	11.35	2	1	.4	0
4.	3.1	0	12.4	27.0	11.0	19.0	3	5	.3	0
5.	3.1	0	5.2	13.4	5.0	9.2	2	0	.5	0
6.	3.1	0	10.8	13.7	6.0	9.85	5	25	.5	0
7.	3.2	5.0	8.6	18.0	10.0	14.0	5	15	.6	11.6
8.	3.1	0	10.3	20.3	10.0	15.15	3	5	.2	0
9.	3.2	5.0	10.0	33.0	14.5	23.75	4	1	.7	8.8
10.	3.1	0	7.8	14.0	7.2	10.6	5	50	.4	0
11.	3.1	0	7.0	15.0	7.5	11.25	5	40	.2	0
12.	3.1	0	11.2	19.0	11.0	15.0	5	15	.2	0
13.	3.1	0	8.0	18.0	7.0	12.5	2	5	.3	0
14.	3.1	0	8.6	31.5	9.0	20.25	5	25	.5	0
15.	3.2	5.0	14.1	57.5	25.5	41.50	4	5	.7	9.0
16.	3.1	5.0	7.4	22.4	7.0	14.70	5	55	.2	10.0
17.	3.2	5.0	9.1	27.0	11.0	19.0	3	0	.5	9.7
18.	3.2	5.0	13.6	40.0	20.0	30.0	4	10	.8	11.0
19.	3.1	0	8.4	10.2	4.5	7.35	2	1	.7	0
20.	3.1	0	3.9	5.9	3.5	4.85	1	0	.5	0

TABLE IV. (continued)

Artemisia nova   Study Area Owl Draw   Date 3 August 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.8	0	5.0	6.2	4.8	5.5	1	0	1.0	0
2.	3.7	0	13.3	16.4	9.0	12.7	2	0	1.0	0
3.	3.7	0	12.3	15.0	8.0	11.5	2	1	.5	0
4.	3.7	5.4	11.9	27.0	12.0	14.5	3	5	.5	7.0
5.	3.7	0	7.0	13.0	7.3	10.15	2	0	1.0	0
6.	3.7	0	11.8	14.5	8.5	11.5	5	25	1.0	0
7.	3.6	5.4	9.2	18.6	12.0	15.3	5	15	1.0	11.0
8.	3.7	0	13.0	21.0	10.0	15.5	3	5	.5	0
9.	3.7	5.4	12.2	32.5	15.6	24.05	4	1	1.0	10.0
10.	3.7	0	7.9	15.2	5.7	10.45	5	50	1.0	0
11.	3.5	0	8.0	14.0	7.7	10.85	5	40	.3	0
12.	3.5	0	12.0	18.8	10.6	14.7	5	15	1.0	0
13.	3.7	0	8.0	10.3	7.0	8.65	2	5	1.0	0
14.	3.6	0	8.4	32.2	10.9	21.55	5	25	1.0	0
15.	3.7	5.4	19.0	55.7	37.4	41.55	4	5	1.0	14.0
16.	3.5	5.4	7.0	23.0	9.0	16.0	5	55	.5	10.0
17.	3.7	5.4	10.9	25.4	12.8	19.1	3	0	1.0	12.5
18.	3.6	5.4	16.4	39.8	27.0	33.4	4	10	1.0	12.0
19.	3.7	0	8.8	10.0	5.0	7.5	2	1	1.0	0
20.	3.5	0	4.3	6.2	4.2	5.4	1	0	.5	0

TABLE IV. (continued)

Artemisia tridentata Study Area Owl Draw Date 16 July 1973

PLANT NO.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
1.	3.3	5.0	43.8	62.0	32.0	47.0	4	15	4.2	14.0
2.	3.3	5.0	40.0	58.6	24.0	41.3	4	15	4.0	10.0
3.	3.2	5.0	25.2	75.0	25.0	50.0	5	40	3.0	11.0
4.	3.2	0	18.3	17.0	7.0	12.0	3	40	4.0	0
5.	3.2	0	25.4	36.5	17.0	26.75	3	2	5.5	0
6.	3.1	0	4.5	3.7	2.0	2.85	1	0	.2	0
7.	3.1	0	4.4	4.0	2.0	3.0	1	0	.3	0
8.	3.2	5.0	20.1	30.5	16.0	23.35	3	5	2.2	9.8
9.	3.2	5.0	51.4	76.0	36.0	51.0	4	5	3.3	9.8
10.	3.1	0	7.4	8.0	4.5	6.25	2	0	.3	0
11.	3.3	0	58.0	84.0	54.0	69.0	4	20	6.0	0
12.	3.3	5.0	63.0	85.0	43.0	64.0	4	5	5.1	18.2
13.	3.1	0	6.0	5.0	3.0	4.0	1	0	2.0	0
14.	3.4	5.0	50.6	86.2	58.0	72.1	4	10	4.0	10.3
15.	3.1	0	33.0	31.0	14.0	22.5	5	55	1.0	0
16.	3.2	0	10.5	11.0	6.5	8.75	2	0	3.0	0
17.	3.1	0	5.6	7.0	3.0	5.0	2	0	1.0	0
18.	3.3	0	21.0	29.0	11.0	20.0	3	50	6.7	0
19.	3.2	0	8.4	8.5	6.0	7.25	2	0	2.5	0
20.	3.3	5.0	28.0	52.0	23.0	3.75	5	30	3.5	12.2

TABLE IV. (continued)

Artemisia tridentata   Study Area Owl Draw   Date 3 August 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	4.0	5.5	44.5	74.0	36.0	55.0	4	15	6.0	19.0
2.	4.0	5.5	41.8	66.0	27.0	46.5	4	15	3.3	13.0
3.	3.7	5.4	26.8	66.0	30.0	48.0	5	40	5.5	12.5
4.	3.8	0	19.9	17.0	6.0	11.5	3	40	6.0	0
5.	3.8	0	25.7	34.2	21.0	27.6	3	2	8.0	0
6.	3.6	0	6.1	5.0	2.0	3.5	1	0	1.0	0
7.	3.6	0	5.8	8.0	2.5	5.25	1	0	1.5	0
8.	4.0	5.5	22.0	30.4	17.5	23.95	3	5	4.0	10.5
9.	4.0	5.5	51.5	78.2	36.0	57.1	4	5	3.0	14.5
10.	3.7	0	7.6	9.0	6.0	7.5	2	0	1.0	0
11.	4.0	0	56.7	86.7	43.4	65.05	4	20	7.5	0
12.	4.0	5.5	59.4	83.0	36.0	59.5	4	5	8.0	20.6
13.	3.8	0	7.7	6.0	3.0	4.5	1	0	3.0	0
14.	4.0	5.5	47.5	86.1	49.1	67.6	4	10	4.0	17.0
15.	3.8	0	34.5	32.0	14.0	23.0	5	55	3.0	0
16.	3.8	0	10.5	9.0	6.5	7.5	2	0	4.0	0
17.	3.7	0	7.0	8.0	2.2	5.1	2	0	2.2	0
18.	4.0	0	23.7	15.6	8.0	11.8	3	50	8.0	0
19.	3.8	0	9.3	85.0	5.0	6.75	2	0	4.0	0
20.	4.0	5.5	27.5	44.0	20.5	32.25	5	30	5.0	14.0

TABLE IV. (continued)

Agropyron Smithii Study Area Red Wash #2 Date 29 June 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	4.2	0	.2	21.5	--	--	1
2.	3.9	0	.2	27.9	--	--	1
3.	4.2	0	.3	29.0	--	--	5
4.	4.2	0	.2	26.7	--	--	2
5.	3.8	0	.2	19.1	--	--	1
6.	3.1	0	.1	5.0	--	--	1
7.	3.9	0	.2	26.0	--	--	1
8.	3.4	0	.1	21.5	--	--	8
9.	3.2	0	.2	19.6	--	--	1
10.	3.7	0	.2	23.4	--	--	4
11.	3.3	0	.1	24.6	--	--	1
12.	3.8	0	.2	24.2	--	--	1
13.	3.7	0	.2	16.9	--	--	1
14.	3.3	0	.2	18.0	--	--	5
15.	3.5	0	.1	13.2	--	--	1
16.	3.2	0	.1	14.0	--	--	2
17.	4.1	0	.1	22.3	--	--	2
18.	3.2	0	.2	18.3	--	--	1
19.	3.3	0	.1	15.0	--	--	2
20.	3.7	0	.2	18.2	--	--	2

TABLE IV. (continued)

Agropyron Smithii   Study Area Red Wash #2   Date 30 July 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	14.0	0	.2	22.0	--	--	1
2.	14.0	0	.2	28.0	--	--	1
3.	14.0	0	.2	28.9	--	--	5
4.	14.0	0	.2	26.8	--	--	2
5.	14.0	0	.2	18.8	--	--	1
6.	3.7	0	.2	19.6	--	--	1
7.	14.0	0	.2	25.4	--	--	1
8.	14.0	0	.2	25.4	--	--	8
9.	14.3	0	.2	19.6	--	--	1
10.	14.0	0	.2	24.2	--	--	4
11.	14.5	0	.1	24.0	--	--	1
12.	14.0	0	2.	23.5	--	--	1
13.	14.0	0	.2	18.4	--	--	1
14.	14.0	0	.2	18.2	--	--	5
15.	14.0	0	.2	13.3	--	--	1
16.	14.0	0	.1	13.8	--	--	2
17.	14.0	0	.2	22.4	--	--	2
18.	14.0	0	.2	17.0	--	--	1
19.	14.1	0	.2	14.0	--	--	2
20.	14.0	0	.2	18.8	--	--	2

TABLE IV. (continued)

Agropyron Spicatum Study Area Red Wash #2 Date 29 June 1973

PLANT No.	PHENO. STAGE SCORE		CLUMP			MAX. LEAF WIDTH cm.	MAX. LEAF HGHT. cm.	MAX. SPIKE HGHT. cm.	NOS. SPIKELETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
	VEG.	REPR.	LGTH. cm.	WIDTH cm.	DIAM. cm.							
1.	4.3	0	--	--	.2	.2	26.9	--	--	--	1	
2.	3.4	0	--	--	4.7	.2	24.2	--	--	--	1	Old Decadent
3.	3.2	0	--	--	.5	.2	15.2	--	--	--	3	
4.	--	5.0	--	--	30.0	.2	16.6	--	--	2	2	Mature Decadent
5.	--	6.5	--	--	25.5	.4	47.5	50.3	7	53	--	Mature Dense
6.	3.3	0	--	--	1.0	.3	20.6	--	--	--	3	
7.	--	5.8	--	--	3.5	.3	21.3	--	--	--	--	Young Dense
8.	4.5	0	--	--	.5	.2	18.0	--	--	--	4	
9.	--	6.2	--	--	20.0	.4	30.5	37.5	5	14	--	Mature Intermediate
10.	4.1	0	--	--	.1	.3	21.2	--	--	--	2	Young Dense
11.	4.1	0	--	--	.1	.3	16.0	--	--	--	3	
12.	4.8	0	--	--	14.0	.4	33.0	--	--	--	--	Intermediate Sparse
13.	4.2	0	--	--	3.6	.2	20.2	--	--	--	3	Mature Dense
14.	--	5.8	--	--	53.0	.4	34.0	--	--	--	--	Old Decadent
15.	4.5	0	--	--	2.0	.3	16.8	--	--	--	7	
16.	4.5	0	--	--	.1	.3	19.5	--	--	--	3	
17.	--	6.5	--	--	16.5	.4	36.3	42.0	7	43	--	Mature Dense
18.	3.8	0	--	--	13.0	.2	18.9	--	--	--	--	Young Sparse
19.	--	6.2	--	--	5.0	.3	29.2	26.2	3	2	--	Young Sparse
20.	--	6.3	--	--	13.0	.3	40.6	47.0	7	4	--	Intermediate Sparse

TABLE IV. (continued)

Agropyron Spicatum Study Area Red Wash #2 Date 30 July 1973

PLANT No.	PHENO. STAGE SCORE		CLUMP			MAX. LEAF WIDTH	MAX. LEAF HGHT.	MAX. SPIKE HGHT.	NOS. SPIKE-LETS/ CULM	NOS. REPR. CULMS	NOS. VEG. CULMS	MATURITY
	VEG.	REPR.	LGTH. cm.	WIDTH cm.	DIAM. cm.	cm.	cm.	cm.				
1.	14.0	0	--	--	.2	.2	27.1	--	--	1	--	
2.	14.0	0	--	--	47.0	.2	24.0	--	--	2	--	Old Decadent
3.	14.0	0	--	--	.5	.2	16.0	--	--	3	--	
4.	14.0	0	--	--	30	.2	16.8	--	--	3	--	Mature Decadent
5.	14.0	11.5	--	--	30	.3	44.2	58.4	7	--	59	Mature Dense
6.	14.0	0	--	--	1.0	.2	14.4	--	--	1	--	
7.	14.0	12.0	--	--	3.0	.2	20.0	22.7	3	--	4	Young Dense
8.	14.0	0	--	--	.5	.2	14.6	--	--	7	--	
9.	14.0	11.5	--	--	22.5	.3	40.7	54.0	7	--	21	Mature Dense
10.	14.0	11.5	--	--	1.0	.3	26.6	41.0	5	--	1	Young Dense
11.	14.0	0	--	--	.1	.3	18.0	--	--	4	--	
12.	14.0	0	--	--	12.5	.3	33.0	--	--	--	--	Intermediate Sparse
13.	14.0	0	--	--	36.0	.2	21.5	--	--	3	--	Mature Dense
14.	14.0	11.5	--	--	53.0	.3	39.4	61.2	7	--	3	Old Sparse
15.	14.0	0	--	--	2.0	.3	20.5	--	--	10	--	
16.	14.0	0	--	--	2.0	.3	19.6	--	--	8	--	
17.	14.0	12.0	--	--	19.0	.3	36.0	48.2	7	--	40	Mature Dense
18.	14.0	0	--	--	12.0	.2	21.8	--	--	1	--	Young Sparse
19.	14.0	12.0	--	--	4.0	.2	23.8	31.0	3	--	2	Young Sparse
20.	14.0	0	--	--	.2	.2	33.4	--	--	3	--	Intermediate Sparse

TABLE IV. (continued)

Artemisia Tridentata Study Area Red Wash #2 Date 29 June 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.	
	VEG.	REPR.									
1.	3.5	0	27.5	67.0	28.0	47.5	4	15	6.0		
2.	3.3	0	37.0	47.0	12.0	29.5	5	30	4.5		
3.	3.1	0	31.0	121.2	73.8	97.5	4	5	6.5		
4.	3.1	0	27.5	33.0	13.0	23.0	3	5	3.0		
5.	3.2	0	19.0	32.0	19.0	25.5	5	15	3.0		
6.	3.2	0	12.7	34.0	16.0	25.0	3	2	2.5		
7.	3.1	0	27.0	76.0	62.0	64.0	4	5	2.0		
8.	3.0	0	17.0	32.0	11.0	21.5	5	40	.5		
9.	3.2	0	16.6	29.0	13.0	21.0	3	5	3.5		
10.	3.1	0	21.2	74.0	35.0	54.5	4	5	2.0		
11.	2.0	0	6.5	10.0	9.0	9.5	5	75	--		Black Ants Eating (Bad)
12.	3.1	0	36.0	110.0	70.0	90.0	4	10	5.0		
13.	3.2	0	7.5	11.0	6.0	8.5	2	0	2.5		
14.	3.3	0	23.0	65.0	43.0	54.0	4	5	3.0		
15.	.31	0	9.0	19.0	8.0	13.5	5	50	2.0		
16.	3.3	0	21.7	48.0	29.0	38.5	4	10	4.5		
17.	3.0	0	18.0	55.0	21.0	38.0	5	15	.5		
18.	3.1	0	36.0	124.0	98.9	114.5	4	5	1.5		
19.	3.1	0	25.5	73.0	19.0	46.0	5	15	2.0		
20.	3.1	0	33.0	62.0	37.0	49.5	4	15	2.5		

TABLE IV. (continued)

Artimisia Tridentata Study Area Red Wash #2 Date 30 July 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.6	5.1	34.3	71.0	26.0	48.5	4	15	4	9.8
2.	3.6	5.1	42.0	48.0	18.0	33.0	5	30	4.5	10.8
3.	3.3	5.1	35.0	122.0	73.0	97.5	4	5	4.2	11.8
4.	3.3	5.0	27.9	31.5	11.0	21.25	3	5	3.2	11.0
5.	3.5	5.1	23.3	35.0	19.0	27.0	5	15	3.0	7.5
6.	3.5	0	17.9	31.0	16.0	23.5	3	2	4.5	--
7.	3.3	5.0	25.6	80.0	42.0	61.0	4	5	3.0	10.0
8.	3.4	0	23.5	35.0	10.0	22.5	5	40	2.5	--
9.	3.4	5.0	26.7	29.0	13.0	21.0	3	5	2.5	14.0
10.	3.3	5.0	28.8	74.0	40.0	57.0	4	5	2.7	8.0
11.	3.0	0	6.0	11.0	6.0	8.5	5	75	.2	--
12.	3.3	5.0	34.6	105.0	77.0	91.0	4	10	3.8	12.5
13.	3.4	0	7.3	11.5	6.0	8.75	2	0	.2	--
14.	3.5	5.0	26.3	81.0	40.0	60.5	4	5	3.0	8.8
15.	3.0	0	10.8	16.0	9.0	12.5	5	50	1.7	--
16.	3.3	5.1	23.2	49.0	28.0	38.5	4	10	3.2	10.5
17.	3.3	5.0	17.8	53.0	30.0	41.5	5	15	2.0	8.0
18.	3.3	5.0	43.0	124.0	88.0	106.0	4	5	2.5	9.2
19.	3.4	5.1	27.6	66.0	22.0	44.0	5	15	.5	7.8
20.	3.3	5.0	35.0	62.0	38.0	50.0	4	15	2.0	6.0

TABLE IV. (continued)

Agropyron smithii   Study Area Shoshoni Ant #7   Date 12 July 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKELETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	3.2	0	.3	18.5			1
2.	4.2	0	.5	22.4			2
3.	4.1	0	.6	24.1			1
4.	4.2	0	.4	18.7			1
5.	4.5	5.0	.5	27.7			3
6.	4.5	9.0	.4	31.2		9	1
7.	4.1	0	3.	16.5			1
8.	4.2	0	.4	20.6			4
9.	4.5	5.0	.4	21.6			2
10.	4.5	5.0	.4	19.0			1
11.	4.3	9.5	.5	49.0		11	2
12.	4.3	0	.4	22.0			1
13.	2.8	0	.2	17.3			1
14.	3.0	0	.4	15.3			2
15.	2.3	0	.2	13.0			2
16.	3.2	0	.4	16.0			1
17.	4.2	0	.3	16.1			1
18.	3.8	0	.3	18.8			2
19.	3.9	0	.3	16.1			1
20.	3.1	0	.2	8.2			1

TABLE IV. (continued)

Agropyron smithii Study Area Shoshoni Ant #7 Date 7 August 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	14.3		.2	18.3			1
2.	14.3		.3	21.2			2
3.	14.3		.4	23.8			1
4.	14.2		.4	18.7			1
5.	14.3		.3	27.5			3
6.	14.3	12.0	.3	31.4	40.7	9	1
7.	14.1		.3	16.5			1
8.	14.2		.3	20.2			4
9.	14.1		.3	21.4			2
10.	14.1		.3	19.2			1
11.	14.2	12.0	.4	49.1	68.3	11	2
12.	14.1		.3	23.3			1
13.	14.3		.1	17.3			1
14.	14.2		.3	15.0			2
15.	14.4		.1	11.2			1
16.	14.2		.3	16.0			1
17.	14.2		.2	15.8			1
18.	14.4		.2	19.0			2
19.	14.4		.2	16.4			1
20.	14.1		.1	7.9			1

TABLE IV. (continued)

Agropyron smithii Study Area Shoshoni Ant #7 Date 9 November 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	17.0		.2	18.7			1
2.	16.5		.3	22.0			4
3.	16.5		.4	23.5			2
4.	16.8		.3	19.4			2
5.	16.8		.3	17.7			3
6.	16.8	13.9	.3	31.5	41.0	9	2
7.	17.0		.2	15.5			1
8.	17.0		.2	20.5			3
9.	16.8		.2	21.5			3
10.	16.8		.2	19.0			3
11.	16.9	13.9	.5	49.0	68.0	12	2
12.	17.0		.3	23.5			1
13.	17.0		.2	17.3			1
14.	17.0		.3	15.6			2
15.	17.0		.2	11.7			2
16.	17.0		.3	16.5			1
17.	16.8		.3	16.4			2
18.	16.8		.1	19.0			3
19.	16.7		.2	14.7			1
20.	16.8		.1	9.3			2

TABLE IV. (continued)

Agropyron smithii Study Area Shoshoni Ant #7 Date 11 November 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKELETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	17.0		.2	18.7			1
2.	17.0		.3	22.0			4
3.	17.0		.4	23.5			2
4.	17.0		.3	19.4			2
5.	16.8		.3	17.7			3
6.	16.8	13.9	.3	31.5	41.0	9	2
7.	17.0		.2	15.5			1
8.	17.0		.2	20.5			3
9.	16.8		.2	21.5			3
10.	16.9		.2	19.0			3
11.	17.0	13.9	.5	49.0	68.0	12	2
12.	17.0		.3	23.5			1
13.	17.0		.2	17.3			1
14.	17.0		.3	15.6			2
15.	17.0		.2	11.7			2
16.	17.0		.3	16.5			1
17.	17.0		.3	16.4			2
18.	17.0		.1	19.0			3
19.	17.0		.2	14.7			1
20.	17.0		.1	9.3			2

TABLE IV. (continued)

Agropyron smithii Study Area Shoshoni Ant #7 Date 26 December 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	17.0		.2	18.7			1
2.	17.0		.3	22.0			4
3.	17.0		.4	23.5			2
4.	17.0		.3	19.4			2
5.	17.0		.3	17.7			3
6.	17.0	13.9	.3	31.5	41.0	9	2
7.	17.0		.2	15.5			1
8.	17.0		.2	20.5			3
9.	17.0		.2	21.5			3
10.	17.0		.2	19.0			3
11.	17.0	13.9	.5	40.0	68.0	12	2
12.	17.0		.3	23.5			1
13.	17.0		.2	17.3			1
14.	17.0		.3	15.6			2
15.	17.0		.2	11.7			2
16.	17.0		.3	16.5			1
17.	17.0		.3	16.4			2
18.	17.0		.1	19.0			3
19.	17.0		.2	14.7			1
20.	17.0		.1	9.3			2

TABLE IV. (continued)

Artemisia tridentata Study Area Shoshoni Ant #7 Date 12 July 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.7	5.0	21.2	36.0	11.5	23.75	3	0		6.5
2.	3.6	5.0	13.5	60.0	21.0	40.5	5	20		7.0
3.	4.0	0	9.8	37.0	10.0	23.5	5	60		---
4.	3.4	5.0	14.7	32.0	14.0	23.0	4	1		6.0
5.	3.2	0	8.7	32.0	12.0	22.0	3	0		---
6.	3.5	5.0	23.5	56.0	22.0	39.0	4	5		5.2
7.	3.1	5.0	13.8	51.0	14.0	32.5	5	15		2.0
8.	3.4	5.0	17.3	53.0	25.8	39.4	4	10		6.0
9.	3.3	0	12.6	41.0	22.0	31.5	4	5		---
10.	3.3	5.0	8.6	36.0	12.5	24.35	4	15		3.5
11.	3.1	5.0	13.0	44.0	20.0	32.0	4	5		6.0
12.	3.0	0	9.8	15.0	11.0	13.0	5	5		---
13.	3.3	5.0	16.2	49.0	35.0	42.0	5	15		4.0
14.	3.1	5.0	17.5	29.0	15.0	22.0	4	3		6.0
15.	3.1	5.0	27.5	28.5	7.0	17.75	4	80		9.0
16.	3.7	5.0	7.0	28.0	17.0	22.5	4	15		---
17.	3.1	0	15.3	45.8	18.5	32.15	4	2		6.0
18.	3.6	5.0	18.3	47.0	16.0	26.5	5	30		9.8
19.	3.1	5.0	15.5	25.5	15.0	20.25	3	5		8.2
20.	3.1	5.0	6.5	29.0	14.0	21.5	4	20		3.5

TABLE IV. (continued)

Artrmisia tridentata Study Area Shoshoni Ant #7 Date 7 August 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.8	5.4	18.2	36.1	17.0	26.55	3	0	3.0	11.0
2.	3.8	5.5	19.0	59.3	29.0	44.15	5	20	3.2	8.0
3.	3.5	5.5	14.5	38.3	21.0	29.65	5	60	2.0	5.0
4.	3.9	5.6	15.6	32.0	16.7	24.35	4	1	3.0	6.2
5.	3.6	0	10.8	30.7	16.7	23.7	3	0	2.0	---
6.	3.8	5.4	21.2	53.4	28.2	40.8	4	5	1.5	4.2
7.	3.7	5.5	23.0	49.3	16.2	32.75	5	15	2.0	3.0
8.	3.8	5.4	20.3	52.0	30.0	41.0	4	10	2.7	6.0
9.	3.9	5.5	14.0	41.4	22.5	31.95	4	5	2.0	4.0
10.	3.9	5.5	12.6	34.1	17.0	25.5	4	15	3.5	4.5
11.	3.7	5.4	13.5	44.1	19.0	31.55	4	5	2.0	7.5
12.	3.7	5.4	8.9	16.0	10.0	13.0	5	5	.5	3.0
13.	3.8	5.5	19.5	67.8	31.0	49.4	5	15	2.0	5.0
14.	3.9	5.5	22.6	32.1	15.0	23.55	4	3	2.0	6.0
15.	4.0	5.5	29.3	30.8	8.0	19.4	4	80	3.5	8.5
16.	3.7	5.5	12.3	29.8	17.1	23.45	4	15	1.0	3.0
17.	3.9	5.5	18.4	45.8	22.1	33.95	4	2	3.5	7.0
18.	3.6	5.6	30.8	42.6	23.5	33.05	5	30	3.3	16.5
19.	3.8	5.5	18.3	43.3	20.7	32.0	3	5	4.0	9.0
20.	3.5	5.4	14.3	43.8	19.6	31.7	4	20	.5	4.7

TABLE IV. (continued)

Artemisia tridentata — Study Area Shoshoni Ant #7 — Date 9 November 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	14.3	13.9	25.0	31.6	17.0	26.55	3	0	3.5	11.5
2.	14.5	15.0	26.0	59.0	29.0	44.15	5	20	4.0	8.5
3.	14.3	0	18.5	38.3	21.0	29.65	5	60	2.5	5.0
4.	14.2	15.2	18.0	32.0	16.7	24.35	4	1	3.0	5.5
5.	14.6	15.1	11.0	30.7	16.7	23.7	3	0	2.0	---
6.	14.5	15.1	31.0	53.4	28.2	40.8	4	5	2.0	5.0
7.	14.3	15.8	19.0	49.2	16.2	32.75	5	15	2.0	3.5
8.	14.2	15.4	26.5	52.0	30.0	41.0	4	10	2.0	6.0
9.	14.4	15.8	15.0	41.4	22.5	31.95	4	5	3.0	2.0
10.	14.3	15.4	15.0	34.1	17.0	25.5	4	15	5.0	4.0
11.	14.4	15.0	18.0	44.1	19.0	31.55	4	5	3.0	7.0
12.	14.4	15.5	10.0	16.0	10.0	13.0	5	5	1.0	3.0
13.	14.5	15.2	19.0	67.8	31.0	49.4	5	15	1.5	4.0
14.	14.2	13.9	22.0	32.1	15.0	23.55	4	3	2.0	7.0
15.	14.0	13.7	34.0	30.8	8.0	19.4	4	80	3.5	8.0
16.	14.2	13.9	10.5	29.8	17.1	23.45	4	15	2.0	3.0
17.	14.3	15.6	21.0	45.8	22.1	33.95	4	2	3.0	8.0
18.	14.4	15.2	35.0	42.6	23.5	33.05	5	30	5.0	14.0
19.	14.5	15.2	17.0	43.3	20.7	32.0	3	5	4.0	13.0
20.	14.4	13.9	10.5	43.8	19.6	31.7	4	20	1.0	4.5

TABLE IV. (continued)

Artemisia tridentata Study Area Shoshoni Ant #7 Date 30 November 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	14.8	15.8	25.0	31.6	17.0	26.55	3	0	3.5	11.5
2.	14.8	15.9	26.0	59.0	29.0	44.15	5	20	4.0	8.5
3.	14.6	15.7	18.5	38.3	21.0	29.65	5	60	2.5	5.0
4.	14.6	15.9	18.0	32.0	16.7	24.34	4	1	3.0	5.5
5.	14.6	0	11.0	30.7	16.7	23.7	3	0	2.0	---
6.	14.8	15.8	31.0	53.4	28.2	40.8	4	5	2.0	5.0
7.	14.8	15.8	19.0	49.3	16.2	32.75	5	15	2.0	3.5
8.	14.6	15.7	26.5	52.0	30.0	41.0	4	10	2.0	6.0
9.	14.7	15.9	15.0	41.4	22.5	31.95	4	5	3.0	2.0
10.	14.7	15.8	15.0	43.1	17.0	25.5	4	15	5.0	4.0
11.	14.7	15.9	18.0	44.1	19.0	31.55	4	5	3.0	7.0
12.	14.8	---	10.0	16.0	10.0	13.0	5	5	1.0	---
13.	14.7	15.7	19.0	67.8	31.0	49.4	5	15	1.5	4.0
14.	14.8	15.9	22.0	32.1	15.0	23.55	4	3	2.0	7.0
15.	14.7	15.7	34.0	30.8	8.0	19.4	4	80	3.5	8.0
16.	14.7	15.3	10.5	29.8	17.1	23.45	4	15	2.0	3.0
17.	14.6	15.8	21.0	4.58	22.1	33.95	4	2	3.0	8.0
18.	14.6	15.7	35.0	42.6	23.5	33.05	5	30	5.0	14.0
19.	14.8	15.8	17.0	43.3	20.7	32.0	3	5	4.0	13.0
20.	14.8	15.6	10.5	43.8	19.6	31.7	4	20	1.0	4.5

TABLE IV. (continued)

Artemisit tridentata Study Area Shoshoni Ant #7 Date 26 December 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	14.8	15.9	25.0	36.1	17.0	26.55	3	0	3.5	11.5
2.	14.8	15.9	26.0	59.0	29.0	44.15	5	20	4.0	8.5
3.	14.8	15.9	18.5	38.3	21.0	29.65	5	60	2.5	5.0
4.	14.8	15.9	18.0	32.0	16.7	24.35	4	1	3.0	5.5
5.	14.8	0	11.0	30.7	16.7	23.7	3	0	2.0	---
6.	14.8	15.9	31.0	53.4	28.2	40.8	4	5	2.0	5.0
7.	14.8	15.9	14.0	49.3	16.2	32.75	5	15	2.0	3.5
8.	14.8	15.9	26.5	52.0	30.0	41.0	4	10	2.0	6.0
9.	14.8	15.9	15.0	41.4	22.5	31.95	4	5	3.0	2.0
10.	14.8	15.9	15.0	34.1	17.0	25.5	4	15	5.0	4.0
11.	14.8	15.9	18.0	44.1	19.0	31.55	4	5	3.0	7.0
12.	14.8	15.9	10.0	16.0	10.0	13.0	5	5	1.0	---
13.	14.8	15.9	19.0	67.8	31.0	49.4	5	15	1.5	4.0
14.	14.8	15.9	22.0	32.1	15.0	23.55	4	3	2.0	7.0
15.	14.8	15.9	34.0	30.8	8.0	19.4	4	80	3.5	8.0
16.	14.8	15.8	10.5	29.8	17.1	23.45	4	15	2.0	3.0
17.	14.8	15.9	21.0	45.8	22.1	33.95	4	2	3.0	8.0
18.	14.8	15.8	35.0	42.6	23.5	33.05	5	30	5.0	14.0
19.	14.8	15.9	17.0	43.3	20.7	32.0	3	5	4.0	13.0
20.	14.8	15.9	10.5	43.8	19.6	31.7	4	20	1.0	4.5

TABLE IV. (continued)

Agropyron smithii Study Area Sweetwater Date 12 July 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	3.7		.3	22.4			2
2.	4.1		.3	18.6			1
3.	3.5		.2	13.2			1
4.	2.8		.2	16.5			1
5.	3.8		.2	18.5			1
6.	4.2		.3	22.0			1
7.	3.3		.2	18.5			3
8.	4.0	8.0	.3	24.0	28.0	5	1
9.	3.8		.2	17.9			2
10.	2.8		.2	22.1			1
11.	4.2		.3	19.0			1
12.	3.7		.3	21.7			1
13.	3.5		.4	28.1			1
14.	2.5		.3	8.3			1
15.	2.1		.3	27.8			4
16.	4.3	9.7	.3	22.5	34.0	11	3
17.	3.1		.2	16.5			2
18.	3.5		.3	14.7			1
19.	3.5		.3	24.3			3
20.	3.7		.2	18.2			2

TABLE IV. (continued)

Agropyron smithii Study Area Sweetwater Date 1 August 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	14.0		.3	21.7			2
2.	14.3		.2	18.4			1
3.	14.1		.2	13.3			1
4.	14.2		.2	16.6			1
5.	14.1		.2	18.6			1
6.	14.2		.2	22.2			1
7.	14.2		.1	17.8			3
8.	14.2	12.5	.3	23.7	27.7	5	1
9.	14.2		.2	17.7			2
10.	14.3		.2	20.5			1
11.	14.1		.3	19.3			1
12.	14.1		.3	21.1			1
13.	14.2		.4	25.7			1
14.	14.1		.3	8.2			1
15.	14.3		.2	28.3			4
16.	14.0	11.5	.3	19.0	31.3	10	3
17.	14.3		.2	17.1			2
18.	14.1		.2	14.9			1
19.	14.2		.3	22.2			3
20.	14.1		.3	18.0			2

TABLE IV. (continued)

Agropyron smithii Study Area Sweetwater Date 9 November 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	17.0		.3	21.1			2	
2.	17.0		.2	18.6			1	
3.	16.5		.1	9.7			1	
4.	16.8		.1	12.5			1	
5.	16.8		.1	17.7			2	
6.	16.8		.3	21.1			1	
7.	16.9		.2	17.0			3	
8.	16.7	15.8	.2	24.0	28.0	5	1	
9.	16.9		.2	17.5			1	
10.	16.8		.2	20.5			1	
11.	16.7		.2	19.0			2	
12.	16.7		.1	14.3			2	
13.	.6.6		.3	22.5			1	
14.	16.8		.2	8.5			1	
15.	16.7		.2	27.0			4	
16.	16.7	15.9	.3	19.0	32.7	10	4	
17.	16.7		.1	17.9			2	
18.	16.7		.2	16.5			3	
19.	16.7		.2	16.0			3	
20.	16.7		.2	19.0			4	

TABLE IV. (continued)

Agropyron smithii Study Area Sweetwater Date 30 November 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	17.0		.3	21.1			2	
2.	17.0		.2	18.6			1	
3.	16.5		.1	5.3			1	
4.	17.0		.1	12.5			1	
5.	17.0		.1	17.7			2	
6.	16.8		.3	21.1			1	
7.	17.0		.2	17.0			3	
8.	14.9	15.4	.2	24.0	28.0	5	1	
9.	17.0		.2	17.5			1	6 cm. ht. of fall regrowth
10.	16.8		.2	20.5			1	5 " " " " "
11.	16.9		.2	19.0			2	7 " " " " "
12.	17.0		.1	14.3			2	7 " " " " "
13.	17.0		.3	22.5			1	9 " " " " "
14.	16.9		.2	8.3			1	8 " " " " "
15.	16.8		.2	27.0			4	13 " " " " "
16.	16.8	15.0	.3	19.0	32.7	10	4	9.5" " " " "
17.	16.9		.1	17.5			2	11 " " " " "
18.	17.0		.2	16.5			3	7.5" " " " "
19.	17.0		.2	16.0			3	11 " " " " "
20.	16.9		.2	19.0			4	9 " " " " "

TABLE IV. (continued)

Agropyron smithii Study Area Sweetwater Date 28 December 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEC. PLANTS	
	VEG.	REPR.						
1.	17.0		.3	21.1			2	
2.	17.0		.2	18.6			1	
3.	17.0		.1	5.3			1	
4.	17.0		.1	12.5			1	
5.	17.0		.1	17.7			2	
6.	17.0		.3	21.1			1	
7.	17.0		.2	17.0			3	
8.	17.0	17.0	.2	24.0	28.0	5	1	
9.	17.0		.2	17.5			1	6 cm. of fall regrowth
10.	17.0		.2	20.5			1	5 " " " "
11.	17.0		.2	19.0			2	7 " " " "
12.	17.0		.1	14.3			2	7 " " " "
13.	17.0		.3	22.5			1	9 " " " "
14.	17.0		.2	8.3			1	8 " " " "
15.	17.0		.2	27.0			4	13 " " " "
16.	17.0	--	.3	19.0	37.2	10	4	9.5 " " " "
17.	17.0		.1	17.5			2	11 " " " "
18.	17.0		.2	16.5			3	7.5 " " " "
19.	17.0		.2	16.0			3	11 " " " "
20.	17.0		.2	19.0			4	9 " " " "

TABLE IV. (continued)

Artemitis nova Study Area Sweetwater Date 12 July 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.5	5.0	14.0	32.0	6.0	19.0	5	75		5.0
2.	3.5	5.0	8.0	33.0	8.5	20.74	5	55		6.0
3.	3.1	5.0	10.5	46.5	23.0	34.75	4	20		6.0
4.	3.6	5.6	13.5	75.0	27.0	51.0	4	5		8.0
5.	3.0	0	5.4	9.8	5.0	7.4	2	5		----
6.	3.2	5.0	10.4	27.5	12.0	19.75	3	10		7.0
7.	3.1	5.0	10.0	17.0	9.5	13.25	5	30		4.0
8.	3.6	5.0	4.7	28.0	8.0	18.0	5	80		5.5
9.	3.1	5.0	11.5	63.9	27.5	45.7	4	5		8.5
10.	3.5	5.0	9.8	34.0	17.3	25.65	4	2		6.5
11.	3.1	5.0	11.2	31.7	15.5	28.6	3	0		5.0
12.	3.7	5.0	9.0	28.0	10.0	19.0	4	5		8.7
13.	3.1	5.0	21.5	65.4	46.0	55.7	4	2		7.0
14.	3.0	0	4.0	8.0	4.0	6.0	2	0		---
15.	3.2	5.0	8.5	22.5	7.5	15.0	5	60		5.0
16.	3.1	5.0	4.0	16.5	6.5	11.5	3	5		6.0
17.	3.0	0	8.0	38.8	21.0	29.9	4	15		---
18.	3.1	5.0	8.0	39.5	23.0	31.25	4	5		4.0
19.	3.1	5.0	5.5	17.0	6.5	11.75	5	20		2.5
20.	3.4	5.0	5.6	52.0	26.0	39.0	3	2		6.5

TABLE IV. (continued)

Artemisia nova Study Area Sweetwater Date 1 August 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.4	5.3	10.0	15.7	8.0	11.85	5	75	1.2	5.5
2.	3.4	5.3	6.5	32.0	11.0	2.15	5	55	.5	8.0
3.	3.5	5.3	10.3	39.0	23.0	31.0	4	20	.5	8.0
4.	3.5	5.3	11.9	57.0	34.6	45.8	4	5	.5	11.0
5.	3.3	0	4.2	10.3	5.0	7.65	2	5	.5	---
6.	3.5	5.3	9.4	28.0	14.0	21.0	3	10	.5	9.0
7.	3.5	5.3	12.5	17.0	10.8	13.90	5	30	.5	6.5
8.	3.3	5.3	8.0	27.0	9.5	18.25	5	80	.5	7.0
9.	3.5	5.3	12.7	61.0	31.5	46.25	4	5	.5	10.0
10.	3.5	5.3	7.7	33.8	18.2	26.0	4	2	.5	7.0
11.	3.5	5.3	11.2	34.2	20.7	27.45	3	0	.5	6.5
12.	3.5	5.3	7.8	30.4	14.0	22.2	4	5	.5	9.0
13.	3.5	---	14.2	73.0	45.4	59.2	4	2	.7	---
14.	3.3	0	3.4	8.0	5.0	6.5	2	0	.2	---
15.	3.4	5.3	7.0	21.5	8.0	14.75	5	60	.2	6.0
16.	3.3.	5.3	4.2	13.7	7.0	10.35	3	5	.2	7.0
17.	3.3	5.2	7.0	47.3	33.5	40.4	4	15	.5	4.0
18.	3.4	5.3	8.9	43.4	22.5	32.95	4	5	.5	5.5
19.	3.3	5.3	6.2	17.4	9.0	13.2	5	20	.2	5.0
20.	3.5	5.3	6.3	45.7	28.7	37.2	3	2	.5	8.5

TABLE IV. (continued)

Artemisia nova Study Area Sweetwater Date 9 November 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	14.5	15.9	15.4	15.7	8.0	11.85	5	75	.5	5.0
2.	14.6	15.9	11.5	32.0	11.0	21.5	5	55	.5	8.0
3.	14.6	15.9	13.0	39.0	23.0	31.0	4	20	.5	7.0
4.	14.3	15.6	25.0	57.0	34.6	45.8	4	5	.5	10.0
5.	14.5	0	5.3	10.3	5.0	7.65	2	5	.5	---
6.	14.5	15.9	14.5	28.0	14.0	21.0	3	10	.5	8.0
7.	14.5	15.8	14.6	17.0	10.8	13.90	5	30	.5	6.5
8.	14.6	15.9	14.0	27.0	9.5	18.25	5	80	.5	9.0
9.	14.4	15.7	22.0	61.0	31.5	46.25	4	5	.5	11.0
10.	14.5	15.8	18.0	33.8	18.2	26.0	4	2	.5	8.0
11.	14.4	15.9	16.5	34.2	20.7	27.45	3	0	.5	6.5
12.	14.5	15.6	20.0	30.4	14.0	22.2	4	5	.5	11.0
13.	14.5	15.6	20.0	73.0	45.4	59.2	4	2	.5	7.5
14.	14.5	0	4.3	8.0	5.0	6.5	2	0	.5	---
15.	14.6	15.6	8.5	21.5	8.0	14.75	5	60	.5	6.-
16.	14.5	15.8	9.0	13.7	7.0	10.35	3	5	.5	7.5
17.	14.6	15.9	9.5	47.3	33.5	40.4	4	15	.5	4.0
18.	14.6	15.7	13.0	43.4	22.5	32.95	4	5	.5	5.7
19.	14.6	---	6.0	17.4	9.0	13.2	5	20	.5	---
20.	14.5	15.5	16.0	45.7	28.7	37.2	3	2	.5	9.0

TABLE IV. (continued)

Artemisia nova Study Area Sweetwater Date 30 November 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	14.6	15.9	15.4	15.7	8.0	11.85	5	75	.5	5.0
2.	14.7	15.9	11.5	32.0	11.0	21.5	5	55	.5	8.0
3.	14.7	15.9	13.0	39.0	23.0	31.0	4	20	.5	7.0
4.	14.6	15.9	25.0	57.0	34.6	45.8	4	5	.5	10.0
5.	14.6	0	5.3	10.3	5.0	7.65	2	5	.5	---
6.	14.7	15.9	14.5	28.0	14.0	21.0	3	10	.5	8.0
7.	14.8	15.9	14.6	17.0	10.8	13.90	5	30	.5	6.5
8.	14.8	15.9	14.0	27.0	9.5	18.25	5	80	.5	9.0
9.	14.6	15.9	22.0	61.0	31.5	46.25	4	5	.5	11.0
10.	14.7	15.9	18.0	33.8	18.2	26.0	4	2	.5	8.0
11.	14.6	15.9	16.5	34.2	20.7	27.45	3	0	.5	6.5
12.	14.7	15.9	20.0	30.4	14.0	22.2	4	5	.5	11.0
13.	14.8	15.9	20.0	73.0	45.4	59.2	4	2	.5	7.5
14.	14.8	0	4.3	8.0	5.0	6.5	2	0	.5	---
15.	14.6	15.9	8.5	21.5	8.0	14.75	5	60	.5	6.0
16.	14.7	---	9.0	13.7	7.0	10.35	3	5	.5	7.5
17.	14.7	15.9	9.5	47.3	33.5	40.4	4	15	.5	4.0
18.	14.7	15.9	13.0	43.4	22.5	32.95	4	5	.5	5.7
19.	14.7	---	6.0	17.4	9.0	13.2	5	20	.5	---
20.	14.7	15.9	16.0	45.7	28.7	37.2	3	2	.5	9.0

TABLE IV. (continued)

Artemisia nova   Study Area Sweetwater   Date 28 December 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	14.8	15.9	15.4	15.7	8.0	11.85	5	75	.5	5.0
2.	14.8	15.9	11.5	32.0	11.0	21.5	5	55	.5	8.0
3.	14.8	15.9	13.0	39.0	23.0	31.0	4	20	.5	7.0
4.	14.8	15.9	25.0	57.0	34.6	45.8	4	5	.5	10.0
5.	14.8	0	5.3	10.3	5.0	7.65	2	5	.5	---
6.	14.8	15.9	14.5	28.0	14.0	21.0	3	10	.5	8.0
7.	14.8	15.9	14.6	17.0	10.8	13.90	5	30	.5	6.5
8.	14.8	15.9	14.0	27.0	9.5	18.25	5	80	.5	9.0
9.	14.8	15.9	22.0	61.0	31.5	46.25	4	5	.5	11.0
10.	14.8	15.9	18.0	33.8	18.2	26.0	4	2	.5	8.0
11.	14.8	15.9	16.5	34.2	20.7	27.45	3	0	.5	6.5
12.	14.8	15.9	20.0	30.4	14.0	22.2	4	5	.5	11.5
13.	14.8	15.9	20.0	73.0	45.4	59.2	4	2	.5	7.5
14.	14.8	0	4.3	8.0	5.0	6.5	2	0	.5	---
15.	14.8	15.9	8.5	21.5	8.0	14.75	5	60	.5	6.0
16.	14.8	---	9.0	13.7	7.0	10.35	3	5	.5	7.5
17.	14.8	15.9	9.5	47.3	33.5	40.4	4	15	.5	4.0
18.	14.8	15.9	13.0	43.4	22.5	32.95	4	5	.5	5.7
19.	14.8	---	6.0	17.4	9.0	13.2	5	20	.5	---
20.	14.8	15.9	16.0	45.7	28.7	37.2	3	2	.5	9.0

TABLE IV. (continued)

Artemisia tridentata Study Area Sweetwater Date 12 July 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.0	5.0	13.5	51.0	21.5	36.25	4	5		5.0
2.	3.0	0	8.0	18.0	6.5	12.25	5	20		---
3.	3.1	5.0	20.5	45.5	24.0	34.75	4	15		3.0
4.	3.1	5.0	28.0	66.0	38.0	52.0	4	5		6.5
5.	3.1	5.0	18.0	25.5	8.0	16.75	4	10		6.0
6.	3.0	0	14.6	37.0	19.0	28.0	4	10		---
7.	3.0	0	7.0	21.5	10.0	15.75	4	1		---
8.	3.2	5.0	11.3	53.5	22.0	37.75	5	20		5.5
9.	3.1	5.0	26.5	69.0	37.0	53.0	5	40		4.5
10.	3.3	0	35.0	114.7	74.0	94.35	4	3		7.0
11.	3.0	0	14.5	34.6	10.0	22.3	5	20		---
12.	3.0	0	14.8	15.0	6.5	10.75	5	55		---
13.	3.2	5.0	11.5	25.3	14.5	19.9	3	0		6.2
14.	3.0	0	11.9	25.0	11.5	18.0	5	20		---
15.	3.0	0	31.0	94.7	66.0	80.35	4	2		---
16.	3.0	0	8.4	11.7	7.0	9.35	5	30		---
17.	3.0	0	8.2	88.3	26.0	57.65	4	10		---
18.	3.4	5.0	28.8	111.1	52.2	81.65	4	15		6.3
19.	3.1	5.0	17.2	113.6	42.5	78.05	4	5		7.0
20.	3.0	0	11.0	23.0	11.0	17.0	5	25		---

TABLE IV. (continued)

Artemisia tridentata Study Area Sweetwater Date 1 August 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.3	5.0	13.4	50.3	24.4	37.35	4	5	.5	5.0
2.	3.2	0	9.8	13.0	6.5	9.75	5	20	.2	---
3.	3.3	5.0	20.5	46.7	27.4	37.05	4	15	1.0	4.0
4.	3.4	5.1	30.5	82.1	40.0	61.05	4	5	1.5	7.0
5.	3.5	5.1	21.6	24.2	14.5	19.35	4	10	1.0	7.0
6.	3.3	5.5	14.7	37.7	20.0	28.85	4	10	.5	5.0
7.	3.4	0	16.0	35.0	13.3	24.15	5	20	1.0	---
8.	3.3	---	9.0	22.8	10.0	16.4	4	1	.5	---
9.	3.5	5.2	15.6	51.0	24.0	37.50	5	20	2.0	10.5
10.	3.3	5.1	21.2	27.0	12.5	19.75	5	40	.5	3.0
11.	3.5	5.2	34.0	107.0	82.0	94.5	4	3	2.0	7.5
12.	3.3	0	15.0	15.5	9.4	12.45	5	55	.3	---
13.	3.5	5.2	13.3	26.7	13.0	19.85	3	0	1.5	7.0
14.	3.5	0	13.0	24.5	15.3	19.9	5	20	.5	---
15.	3.5	0	30.8	105.0	65.0	85.0	4	2	2.0	---
16.	3.4	0	10.0	13.0	7.5	10.25	5	30	.5	---
17.	3.3	0	10.2	88.0	32.0	60.0	4	10	.5	---
18.	3.5	5.2	29.6	106.0	58.0	82.0	4	15	1.0	6.2
19.	3.5	5.2	19.0	115.0	46.8	80.9	4	5	1.0	9.8
20.	3.5	0	12.3	32.0	11.0	21.5	5	25	1.0	

TABLE IV. (continued)

Artemisia tridentata Study Area Sweetwater Date 8 November 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	14.5	15.9	17.6	50.3	24.4	36.5	4	5	.5	4.5
2.	14.5	0	9.7	13.0	6.5	9.75	5	20	.5	---
3.	14.5	13.5	22.0	46.7	27.4	37.05	4	15	1.5	4.5
4.	14.3	13.3	40.0	82.1	40.0	61.05	4	5	1.5	7.0
5.	14.3	13.0	23.5	24.2	14.5	19.35	4	10	1.0	7.0
6.	14.3	13.0	15.8	37.7	20.0	28.85	4	10	1.0	5.0
7.	14.5	13.5	7.0	35.0	13.3	24.15	5	20	1.5	---
8.	14.3	13.5	25.0	22.8	10.0	16.4	4	1	1.5	12.7
9.	14.3	13.6	29.0	51.0	24.0	37.50	5	20	2.0	6.5
10.	14.5	13.5	38.0	27.0	12.5	19.75	5	40	2.5	8.2
11.	.416	---	17.5	10.7	82.0	94.5	4	3	2.0	---
12.	14.2	0	15.5	15.5	9.4	12.45	5	55	.5	---
13.	14.3	13.5	18.0	26.7	13.0	19.85	3	0	2.0	6.0
14.	14.5	0	14.4	24.5	15.3	19.90	5	20	1.0	---
15.	14.3	0	31.0	105.0	65.0	85.0	4	2	3.0	---
16.	14.3	0	11.5	13.0	7.5	10.25	5	30	.5	---
17.	14.2	0	8.5	88.0	32.0	60.0	4	10	.5	---
18.	14.3	13.5	39.0	106.6	58.0	82.0	4	15	2.0	6.5
19.	14.3	13.5	28.0	115.0	46.8	80.9	4	5	2.0	11.0
20.	14.3	13.4	30.0	32.0	11.0	21.5	5	25	3.0	6.0

TABLE IV. (continued)

Artemisia tridentata Study Area Sweetwater Date 11 November 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	14.5	15.9	17.6	50.3	24.4	37.35	4	5	.5	4.5
2.	14.8	0	9.7	13.0	6.5	9.75	5	20	.5	---
3.	14.6	15.2	22.0	46.7	27.4	37.05	4	15	1.5	4.5
4.	14.7	15.8	40.0	82.1	40.0	61.05	4	5	1.5	7.0
5.	14.6	15.3	23.5	24.2	14.5	19.35	4	10	1.0	7.0
6.	14.6	15.3	15.8	37.7	20.6	28.85	4	10	1.0	5.0
7.	14.8	---	7.0	35.0	13.3	24.15	5	20	1.5	---
8.	14.7	---	25.0	22.8	10.0	16.4	4	1	1.5	12.7
9.	14.5	15.6	29.0	51.0	24.6	37.50	5	20	2.0	6.5
10.	14.5	15.7	38.0	27.0	12.5	19.75	5	40	2.5	8.2
11.	14.6	15.8	17.5	107.0	82.0	94.5	4	3	2.0	6.5
12.	14.7	0	15.5	15.5	9.4	12.45	5	55	.5	---
13.	14.6	15.8	18.0	26.7	13.0	19.85	3	0	2.0	6.-
14.	14.6	0	14.4	24.5	15.3	19.90	5	20	1.0	---
15.	14.6	0	31.0	105.0	65.0	85.0	4	2	3.0	---
16.	14.7	0	11.5	13.0	7.5	10.25	5	30	.5	---
17.	14.6	0	8.5	88.0	32.0	60.0	4	10	.5	---
18.	14.7	15.7	39.0	106.0	58.0	82.0	4	15	2.0	6.5
19.	14.7	15.5	28.0	115.0	46.8	80.9	4	5	2.0	11.0
20.	14.6	---	30.0	32.0	11.0	21.5	5	15	3.0	6.0

TABLE IV. (continued)

Artemisia tridentata Study Area Sweetwater Date 28 December 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	14.8	15.8	17.6	50.3	24.4	37.35	4	5	.5	4.5
2.	14.8	0	9.7	13.0	6.5	9.75	5	20	.5	---
3.	14.8	15.3	22.0	46.7	27.4	37.05	4	15	1.5	4.5
4.	14.8	15.8	40.0	82.1	40.0	61.05	4	5	1.5	7.0
5.	14.8	15.2	23.5	24.2	14.5	19.35	4	10	1.0	7.0
6.	14.8	---	15.8	37.7	20.0	28.85	4	10	1.0	---
7.	14.8	---	7.0	35.0	13.3	24.15	5	20	1.5	---
8.	14.8	---	25.0	22.8	10.0	16.4	4	1	15.	---
9.	14.8	15.7	29.0	51.0	24.0	37.50	5	20	2.0	6.5
10.	14.8	---	38.0	27.0	12.5	19.75	5	40	2.5	---
11.	14.7	15.8	17.5	107.0	82.0	94.5	4	3	2.0	6.5
12.	14.8	0	15.5	15.5	9.4	12.45	5	55	.5	---
13.	14.8	15.8	18.0	26.7	13.0	19.85	3	0	2.0	6.0
14.	14.8	0	14.4	24.5	15.3	19.90	5	20	1.0	---
15.	14.7	0	31.0	105.0	65.0	85.0	4	2	3.0	---
16.	14.8	0	11.5	13.0	7.5	10.25	5	30	.5	---
17.	14.8	0	8.5	88.0	32.0	60.0	4	10	.5	---
18.	14.8	15.7	39.0	106.0	58.0	82.0	4	15	2.0	6.5
19.	14.8	15.7	28.0	115.0	46.8	80.9	4	5	2.0	11.0
20.	14.7	---	30.0	32.0	11.0	21.5	5	25	3.0	---

TABLE IV. Phenological inventory of permanently located plots.

Agropyron Smithii Study Area Upper Government Draw Date 17 July 1973

PLANT NO.	PHENO. STAGE SCORE VEG.	PHENO. STAGE SCORE REPR.	MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
1.	2.9	0	.2	20.0	--	--	1
2.	3.6	0	.2	25.8	--	--	7
3.	4.1	0	.2	26.8	--	--	1
4.	4.3	0	.3	26.4	--	--	1
5.	4.2	0	.3	18.8	--	--	1
6.	4.2	0	.3	30.5	--	--	5
7.	3.9	0	.3	29.0	--	--	1
8.	4.2	0	.3	24.1	--	--	1
9.	3.6	0	.3	23.1	--	--	2
10.	3.3	0	.2	23.8	--	--	3
11.	4.8	5.0	.3	35.3	--	--	1
12.	4.5	10.5	.3	41.7	54.5	7	1
13.	3.5	0	.3	23.3	--	--	1
14.	3.6	0	.3	34.4	--	--	7
15.	3.7	0	.3	23.5	--	--	1
16.	3.7	0	.2	29.0	--	--	1
17.	4.3	0	.3	34.4	--	--	1
18.	3.8	0	.3	7.0	--	--	1
19.	3.8	0	.3	34.4	--	--	1
20.	3.6	0	.3	23.2	--	--	1

TABLE IV. (continued)

Agropyron Smithii Study Area Upper Government Draw Date 1 August 1973

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm.	MAX. LEAF HGTH. cm.	MAX. SPIKE HGTH. cm.	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	14.0	0	.2	20.1	--	--	1
2.	14.1	0	.3	15.7	--	--	7
3.	14.1	0	.3	26.3	--	--	1
4.	14.2	0	.3	25.7	--	--	1
5.	14.0	0	.2	18.7	--	--	1
6.	14.2	0	.3	32.2	--	--	5
7.	14.1	0	.3	28.9	--	--	1
8.	14.1	0	.3	24.5	--	--	1
9.	14.1	0	.3	24.9	--	--	2
10.	14.2	0	.2	25.0	--	--	3
11.	14.2	--	.3	35.0	--	--	1
12.	14.1	12.5	.3	41.9	54.6	7	1
13.	14.2	0	.2	22.3	--	--	1
14.	14.2	0	.3	34.2	--	--	7
15.	14.2	0	.3	24.0	--	--	1
16.	14.2	0	.3	31.0	--	--	1
17.	14.2	0	.3	35.3	--	--	1
18.	14.2	0	.3	27.5	--	--	1
19.	14.1	0	.3	34.9	--	--	1
20.	14.1	0	.3	22.8	--	--	1

TABLE IV. (continued)

Artemisia Tridentata Study Area Upper Government Draw Date 17 July 1973

PLANT NO.	PHENO. STAGE SCORE VEG.	REPR.	PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
1.	3.3	0	20.4	33.0	12.5	22.75	3	10	4.2	--
2.	3.1	5.0	20.7	31.0	13.0	22.0	5	50	1.0	8.0
3.	3.2	5.0	26.5	46.0	16.5	31.25	4	20	2.5	5.0
4.	3.2	5.0	22.8	27.0	9.0	18.0	5	50	2.0	5.0
5.	3.3	5.0	27.7	74.5	29.0	51.75	4	15	2.5	9.2
6.	3.3	5.0	32.0	49.5	25.0	37.25	4	10	3.7	7.7
7.	3.2	5.0	18.9	27.8	14.0	20.9	3	2	3.0	5.0
8.	3.2	5.0	18.3	18.5	10.0	14.25	2	2	2.0	6.0
9.	3.3	5.0	33.0	48.0	26.5	32.25	4	15	4.2	10.8
10.	3.4	5.0	24.4	42.0	29.0	35.5	4	10	5.0	13.5
11.	3.2	5.0	30.2	36.0	17.0	26.5	4	20	3.0	7.0
12.	3.1	5.0	19.1	21.2	10.5	15.85	3	15	1.5	7.0
13.	3.2	5.0	31.0	78.0	32.0	55.0	5	20	3.0	6.8
14.	3.2	0	12.5	19.0	6.0	12.5	5	35	1.5	--
15.	3.2	5.0	19.5	30.5	13.0	21.75	4	10	2.5	8
16.	3.2	5.0	25.5	40.0	17.0	33.5	4	20	2.8	10.1
17.	3.3	5.0	27.9	45.7	25.0	35.35	4	20	5.0	8.2
18.	3.3	5.0	33.7	69.8	35.0	52.4	4	20	3.5	8.5
19.	3.2	5.0	19.3	21.5	9.0	15.25	5	40	3.0	8.0
20.	3.3	5.0	35.1	44.0	20.0	32.0	4	10	3.5	8.0

TABLE IV. (continued)

Artemisia Tridentata Study Area Upper Government Draw Date 1 August 1973

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm.	PLANT LNGTH. cm.	PLANT WIDTH cm.	PLANT DIAM. cm.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm.	NEW SEED STALK LNGTH. cm.
	VEG.	REPR.								
1.	3.6	0	22.1	32.0	14.0	23.0	3	10	6.0	--
2.	3.4	5.1	21.3	60.0	16.0	38.0	5	50	2.0	7.5
3.	3.4	5.1	30.3	52.0	23.3	37.65	4	20	3.0	6.0
4.	3.5	--	29.5	16.6	7.0	11.8	5	50	4.5	--
5.	3.4	5.1	28.5	71.3	24.0	47.65	4	15	3.5	10.0
6.	3.5	5.2	27.1	51.3	27.0	39.1	4	10	3.5	9.5
7.	3.5	5.1	20.3	28.6	14.2	21.4	3	2	3.8	6.5
8.	3.5	5.2	16.8	18.8	8.9	13.85	2	2	3.0	7.5
9.	3.5	5.2	40.5	58.0	28.3	43.15	4	15	4.2	11.0
10.	3.5	5.2	29.3	42.2	28.5	35.35	4	10	6.0	16.0
11.	3.5	5.2	34.2	41.7	33.0	37.35	4	20	4.5	8.5
12.	3.4	5.2	18.0	19.8	12.9	16.35	3	15	2.5	6.0
13.	3.5	5.2	34.1	69.1	40.5	54.8	5	20	3.0	7.0
14.	3.4	0	11.6	19.2	8.5	13.85	5	35	2.5	--
15.	3.5	5.2	19.0	30.3	13.0	21.65	4	10	3.8	8.0
16.	3.5	5.2	27.0	52.0	22.0	37.0	4	20	4.0	11.0
17.	3.5	5.2	24.8	46.7	27.0	37.2	4	20	5.5	10.0
18.	3.5	5.2	32.0	53.0	22.0	37.60	4	20	3.2	13.0
19.	3.5	5.1	19.9	20.4	9.8	15.1	5	40	3.0	9.0
20.	3.5	5.3	36.0	46.4	20.6	33.5	4	10	5.0	13.0

SECTION II

PRECIPITATION PATTERN STUDY

1973

Introduction

During 1960 over 70 gauges were installed at 6 to 12 mile intervals throughout the Big Horn and Wind River Basins. Since that time approximately 20 gauges in the Big Horn Basin have been discontinued and some 80 gauges have been installed at various exclosures and study sites throughout western Wyoming. These gauges are cans, 12" in height and approximately 2.75" in diameter. This diameter allows reading of precipitation by pouring the water into a 100 ml. cylinder and converting ml. readings to inches of rainfall. One hundred ml. is equal to 1" of precipitation. The gauges are read on the same four dates each year--April 15, July 1, September 1, and October 15. Personnel of the Worland, Lander, Rawlins, Casper and Rock Springs Districts of the Bureau of Land Management cooperate with the University in reading the instruments. Some gauges are also read by personnel of the Soil Conservation Service and the Wyoming Game and Fish Commission.

The U. S. Weather Bureau and the U. S. Geological Survey precipitation data are used to provide additional information from other locations. This cooperative effort provides an effective network for future evaluation of precipitation patterns. A map of precipitation gauge locations was presented in the 1963 report.

Precipitation data for 1973 from the University gauges are presented in Table I; those from the U. S. Weather Bureau stations are presented in Table II.

Table I. Precipitation data for 1973 from University of Wyoming gauges for the periods October 15-April 15 (winter), April 15-July 1 (spring), July 1-September 1 (summer) and September 1-October 15 (fall).

		Precipitation Periods and Data Collection Dates						
Rain Gauge No.	Rain Gauge Name	Winter Apr. 15 '73	Spring July 1 '73	Summer Sept. 1 '73	Fall Oct. 15 '73	Total '73	Long-Term Average	No. of years
	Big Horn County							
176	Basin Flats Exc.	1.39	1.76	1.70	.89	5.74	6.69	7
123	Big Flat Exc.	1.49	1.88	.97	1.25	5.69	6.29	6
24	Halogeton Exc. #1	.72	2.00	1.14	1.92	5.78	5.45	14
167	Halogeton Exc. #2	.71	2.22	1.13	3.00	6.06	6.05	2
168	Halogeton Exc. #3	.63	2.12	1.17	2.05	5.97	5.49	2
12	Horse Creek Exc.	2.72	5.20	1.84	2.66	12.42	11.56	14
113	Horse Haven Exc.	1.40	1.72	1.68	1.36	6.16	7.12	7
21	Kane Deer Exc.	3.32	4.95	1.33	2.30	11.90	12.58	9
149	Kane GRI Exc.	2.83	5.12	1.30	2.40	11.65	13.50	6
116	Kane Seed Exc.	1.13	2.00	.90	2.36	6.39	6.91	6
148	Medicine Lodge GRI Exc.	3.48	5.40	2.30	2.75	13.93	14.01	6
175	Potato Ridge Exc.	1.77	2.74	1.03	2.11	7.65	8.37	6
23	Sheep Springs Exc.	3.41	5.95	1.72	2.73	13.81	14.09	13
176	Sheldon Gulch Exc.	1.82	2.62	.90	2.11	7.45	7.96	6
	Park County							
147	Big Sage Exc.	2.28	DR	2.16	.37	4.81	7.04	5
146	Big Sky Exc.	3.67	DR	2.24	.37	6.28	8.10	5
100	Buffalo Basin Exc.	3.30	2.76	3.01	3.45	12.52	11.00	7
145	Hilltop Spring Exc.	8.94	DR	3.21	1.59	13.74	14.62	5
184	Little Dry Creek	GD	3.03	3.80	2.37	-	-	-
	Washakie County							
1	Ant Hill Worland Exc.	1.18	1.76	1.70	1.62	6.26	6.54	14
150	Big Trails GRI Exc.	7.35	1.96	1.60	2.88	13.79	13.41	6
41	Bid Kimball Exc.	2.75	3.30	2.61	2.96	11.62	9.40	12
7	Buffalo Creek Exc.	3.20	3.30	1.32	2.90	10.72	10.49	12
17	Burnt Wagon Exc.	1.18	2.05	2.10	1.12	6.45	6.19	12
179	Chalk Exc.	1.25	2.21	2.02	1.23	6.71	6.38	13
8	Demer Exc.	2.04	1.33	2.00	1.82	7.19	8.09	14
4	Dutch Nick Flat Exc.	1.53	1.45	2.26	1.22	6.46	6.96	13
15	15 Mile Study Area (179)	1.25	2.21	2.02	1.23	6.71	6.38	13
177	Hawk Exc.	1.30	1.80	1.90	1.05	6.05	6.15	12
166	Mills Burn	6.55	2.03	1.38	3.23	13.19	13.58	3
185	Rice Burn	3.21	4.75	3.90	2.90	14.76	14.76	1
180	Sand Creek Exc.	1.24	1.90	1.76	1.43	6.33	6.73	7
36	Smilo Exc.	2.72	2.58	1.67	1.75	8.72	8.34	13
181	Tolman Ridge Exc.	1.25	2.02	1.82	1.40	6.49	6.86	7
39	Two Mile Hill Exc.	2.88	2.60	1.26	3.15	9.89	9.40	13
13	West Pasture Exc.	1.48	1.81	1.80	1.15	6.24	5.70	12
178	Willwood Exc.	1.25	2.14	1.96	1.04	6.39	6.29	13
115	Worland Cattle Co. Exc.	1.90	2.47	1.92	1.72	8.01	7.49	6
	Hot Springs County							
117	Big Bend Exc.	3.65	2.55	1.95	3.62	11.77	9.85	6
76	Cochran Exc.	3.63	2.32	3.22	2.23	11.40	10.14	13
77	Kirby Creek Exc.	3.75	2.16	1.18	2.60	9.69	9.00	11
11	Lower Enos Creek Exc.	2.30	2.50	2.45	3.93	11.18	10.73	6
133	North Butte - Thermop	3.67	3.04	1.30	2.66	10.67	9.59	2
182	Round Top Mountain	5.00	3.32	E1.30	3.03	12.65	11.96	2
75	Sand Gulch Exc.	2.60	2.02	1.90	2.00	8.52	8.91	12
22	Upper Enos Creek Exc.	6.57	5.23	3.28	4.08	19.16	15.49	8

TABLE I. Continued

		Precipitation Periods and Data Collection Dates						
Rain Gauge No.	Rain Gauge Name	Winter Apr. 15 '73	Spring July 1 '73	Summer Sept. 1 '73	Fall Oct. 15 '73	Total '73	Long-Term Average	No. of Years
	Fremont County							
52	Alkalai Flats	2.88	2.39	4.02	3.18	12.47	9.17	13
5	Ant Plot Exc. (Lander)	2.10	.36	1.10	3.45	7.01	8.76	13
157	Bar X	3.09	DR	3.58	1.10	7.77	7.01	5
89	Birdseye Ranch	3.84	2.89	2.07	3.00	11.80	8.11	10
10	Boysen Reservoir Exc.	1.94	1.01	1.35	2.68	6.98	5.02	14
85	Bridger Creek Ranch	DR	8.92	3.94	3.00	15.86	11.39	11
49	Canyon Creek	3.78	4.27	2.06	3.56	13.67	9.11	12
59	Carter Divide Exc.	2.75	.11	1.65	4.46	8.97	8.31	13
88	Comet Mine	8.15	E3.90	2.57	3.99	E17.61	12.91	11
60	Dishpan Butte #1 Exc.	10.04	.23	2.00	5.78	18.05	10.82	12
61	Dishpan Butte @2 Exc.	5.40	.27	2.14	4.14	11.95	9.62	12
86	Dry Creek	1.50	2.17	2.20	2.12	7.99	7.03	13
58	Empty Cartridge Exc.	7.30	0.10	1.40	3.98	12.78	8.25	10
55	Fraser Seed Plot	3.81	3.41	1.32	4.37	12.81	9.02	11
48	Fuller Seed Plot	2.52	2.03	2.14	3.36	10.05	8.80	13
46	Gibbs Butte	1.60	2.02	1.81	2.32	7.75	7.22	13
6	Granite Mountain Exc.	DR	5.66	1.87	3.96	11.49	9.02	10
62	Hall Creek Divide Exc.	9.75	.10	2.37	4.88	17.10	11.95	13
87	Hoodoo Creek	1.75	2.51	1.44	3.32	9.02	6.32	13
64	Hudson	7.10	.18	1.70	5.25	14.23	9.31	13
68	Johnson	1.22	2.97	2.02	2.55	8.76	7.45	11
63	Little Popo Agie	9.33	0.10	2.30	4.90	16.63	11.27	13
56	Logan #1 Exc.	6.80	.30	1.56	3.30	11.96	9.41	13
57	Logan #2 Exc.	3.10	.07	3.20	3.32	9.69	8.67	13
16	Lower Gov't. Draw Exc.	7.80	.20	2.11	5.24	15.35	10.91	13
81	Mack Ranch	DR	RI	2.12	2.43	-	8.00	10
67	Madden	2.40	2.32	1.95	3.14	9.81	10.24	12
14	McGraw Flat Exc.	6.60	.15	2.97	4.93	14.65	10.04	13
47	Muskrat Creek	2.20	2.31	2.59	3.12	10.22	7.36	12
50	Muskrat #5 Exc.	5.10	.13	1.30	3.43	9.96	8.83	13
51	Poison Creek	2.42	2.92	2.46	3.20	11.00	8.08	11
80	Poison Draw	1.08	1.34	2.45	2.00	6.87	7.34	13
65	Sand Draw	7.90	.62	1.50	4.26	14.28	9.23	12
169	Shoshoni Ant #2 Exc.	2.78	2.92	1.96	3.99	11.65	10.45	2
170	Shoshoni Ant #4 Exc.	2.57	2.63	2.12	3.23	10.55	9.74	2
158	Shoshoni Ant #7 Exc.	2.63	2.49	2.00	E4.00	E11.12	10.45	3
171	Shoshoni Ant #9 Exc.	2.68	2.52	2.19	3.60	10.99	9.69	2
172	Shoshoni Ant #8 Exc.	2.73	2.26	2.03	3.73	10.75	9.75	2
173	Shoshoni Ant #11 Exc.	2.75	2.94	1.82	3.44	10.95	10.25	2
11	Sweetwater Exc.	6.78	.58	3.12	3.53	14.01	8.57	11
9	Upper Gov't. Draw Exc.	7.06	.12	1.33	5.00	13.51	8.70	13
	Natrona County							
143	Arminto Exc.	2.71	3.39	2.53	1.57	10.20	9.52	6
109	Bolton Creek Exc.	E3.00	0.30	0.76	0.36	4.42	8.42	5
141	Donlin Exc.	2.20	3.10	2.50	1.17	8.97	7.87	6
110	E K. Exc.	2.71	3.39	2.53	1.57	10.20	9.52	6
142	Merino Exc.	3.38	3.08	E2.50	1.05	10.01	9.60	6
108	Mud Springs Exc.	DR	9.82	2.82	1.32	13.96	11.91	6
107	Owl Draw Exc.	4.38	2.73	2.42	1.11	10.64	9.95	7
144	Poison Spider Exc.	2.52	4.95	2.87	1.60	11.94	9.63	6
106	Stinking Creek Exc.	4.95	2.76	2.89	1.39	11.99	9.99	7
	Carbon County							
186	Flattop	4.38	DR	3.92	1.03	9.33	9.33	1
27	Little Robber #5 Exc.	3.25	DR	3.22	.94	7.41	9.91	11
128	Oppenheimer #1 Exc.	DR	DR	9.29	.68	9.97	10.33	6
124	Poison Butte #1 Exc.	DR	DR	12.20	.80	13.00	11.46	6
125	Poison Butte #2 Exc.	DR	DR	8.53	.75	9.28	10.91	6
130	Powder Rim Past. C #1 Exc.	DR	DR	9.45	.76	10.21	8.74	6
26	Red Wash #1 Exc.	3.33	DR	2.81	.82	6.96	8.50	12
25	Red Wash #3 Exc.	4.25	DR	3.00	1.27	8.52	9.06	12

TABLE I. Continued

Rain Gauge No.	Rain Gauge Name	Winter Apr. 15 '73	Spring July 1 '73	Summer Sept. 1 '73	Fall Oct. 1 '73	Total '73	Long-Term Average	No. of years
	Sweetwater County							
20	Black Mountain Exc.	4.84	DR	2.17	1.89	8.90	7.71	12
30	Boars Tuck Exc.			No Data			7.57	11
18	Cedar Mt. Exc.	4.74	DR	3.05	1.46	9.25	8.75	12
102	Chandler Simpson Well	4.81	DR	4.32	2.92	12.05	6.58	5
103	Daley Hay Corral	4.97	DR	3.91	3.41	12.29	7.51	7
2	Farson Exc.	DR	6.24	1.96	1.29	9.49	6.67	11
104	J. O Headquarters	4.49	DR	4.77	3.05	12.31	8.24	8
105	Len Hay Corral	4.25	DR	3.15	2.32	9.72	7.30	8
131	Powder Rim Past D Exc. #1	3.35	DR	2.86	1.05	7.46	8.06	6
136	Powder Rim Past B Exc. #1	E5.00	DR	3.02	1.65	E9.67	9.15	6
137	Powder Rim Past B Exc. #2	5.15	DR	2.12	1.45	8.72	11.05	6
139	Powder Rim Past A Exc. #1	6.45	DR	3.09	1.29	10.83	10.08	6
19	Radio Tower Exc.	4.19	DR	2.34	3.92	10.45	7.46	13
28	Red Wash #2 Exc.	3.25	DR	3.48	2.00	8.73	7.78	12
101	Ten Mile Ridge	RI	DR	3.68	2.90	-	5.69	7
	Uinta County							
31	Cumberland #1 Exc.	DR	6.42	3.95	1.78	12.15	8.28	9
34	Cumberland #4 Exc.	DR	5.95	2.45	2.25	10.65	8.28	9
	Lincoln County							
32	Cumberland #2 Exc.	5.46	.97	4.50	2.10	10.03	9.80	10
33	Cumberland #3 Exc.	RI	2.53	3.35	1.45	7.33	11.16	10
35	Elk Mountain Pit	6.60	1.05	3.90	1.80	13.35	9.75	9

TABLE II. Precipitation data from selected U. S. Weather Bureau Stations for the period October 15, 1972 to October 15, 1973.[1]

Section Name	Winter Oct. 16 to Apr. 15	Spring Apr. 16 to July 1	Summer July 1 to Sept. 1	Fall Sept. 1 to Oct. 15	1973 Totals[2]	Long-Term Average[3]	Years of Record
Big Horn Basin							
Anchor Dam	7.21	5.03	4.24	5.28	21.76	15.28	11
Basin	1.15	2.16	1.24	2.41	6.21	6.21	65
Black Mountain	5.50	4.69	1.83	3.15	15.17	11.17	10
Cody 12 SE	3.74	2.93	2.49	2.44	11.60	12.55	10
Deaver	.66	1.96	.86	1.98	5.36	5.21	54
Emblem	1.72	2.03	3.01	2.54	9.30	7.75	26
Grass Creek	3.70	2.65		2.31		11.68	20
Greybull 15			1.37	2.41		7.61	21
Heart Mountain	3.05	2.30	1.52	2.77	9.64	10.66	24
Lovell		1.80	1.43	2.70		6.92	60
Powell		2.56	2.13	3.12		5.67	63
Rairden 2 WSW	.93	1.94	1.07	1.18	5.12	7.21	21
Shell	6.28	5.98	1.96	3.05	17.27		14
Ten Sleep 4 NE	3.77	4.51	3.06	2.58	13.92	12.15	9
Ten Sleep 16 SSE	4.18	3.98	1.80	3.30	13.26	11.89	
Thermopolis 2		5.00	2.31	4.10		11.01	8
Thermopolis 25 WNW		3.65	3.55	4.63		11.48	15
Worland		2.08	1.56	2.00		7.56	59
Worland FAA AP			1.97	1.99		5.80	12
Wind River Basin							
Boysen Dam	5.43	4.00	1.72	3.21	14.36	7.87	26
Diversion Dam	3.60	2.95		6.14		9.45	52
Fort Washakie 25	5.16	2.71	3.63			11.90	64
Gas Hills 4 E	4.78	3.33	1.17	2.97	12.25	9.74	10
Lander	9.68	6.01	2.43	5.67	23.79	13.58	81
Lost Cabin		2.24		3.51		6.52	11
Pavillion			1.50	5.00		8.67	48
Riverton		3.28	1.94	4.78		8.79	53
Sand Draw	3.86	3.84	1.50	3.99	13.19	9.11	25
Shoshoni	1.86	2.73	1.78	3.28	9.65	5.41	32
South West Wyoming							
Farson						6.95	49
Green River		2.86	2.44	2.78		8.70	66
Kemmerer 4 SW			2.26	2.41		9.32	39
Rock Springs	4.53	1.66	3.63	3.92	13.74	8.11	32
Rock Springs FAA AP	5.03	2.32	4.20	3.97	15.52	10.76	40
Wamsutter 1 N							32
Muddy Gap	5.23	2.12	2.60			11.85	23
Rawlins FAA AP	4.59	3.61	2.47	1.34	12.01	10.86	33

[1] Weather Bureau, 1973. Climatological Data-Wyoming Annual Summary of Commerce Vols. 81-82.

[2] Computed for the period October 15, 1972 to October 15, 1973.

[3] Weather Bureau, 1973. Climatological Data-Wyoming Annual Summary. U. S. Dept. of Commerce. Vol. 81, No. 13 and John Alyea, U. S. Weather Bureau, Cheyenne.

SECTION III

EXCLOSURE STUDIES (PRODUCTION, COVER, AND PRECIPITATION PHASE)

1973

Studies of vegetation production from several exclosures and relic areas of the Big Horn and Wind River Basins were initiated during the 1962 field season. These studies have been continued annually since this time. The objectives of the program are to determine:

(1) the relationship of annual herbage production to area cover percentage;

(2) the relationship of annual herbage production changes to variations in time and amount of available moisture;

(3) the relationship of plant height of major forage species to annual herbage production and to time and amount of available moisture;

(4) influence of several range improvement practices on herbage production and area cover;

(5) the relationship of percentage frequency to area cover and herbage production.

Methods and Procedures

Area cover and herbage production studies on sagebrush-grass sites were conducted on transects of 20 quadrats, 1' x 1', spaced systematically along a randomly located 100' steel tape.

On sites dominated by saltbush, a variation of the sampling technique, described in the 1968 results, was used to measure herbage production. Twenty 1' x 10' plots were located systematically along a randomly located

100' steel tape. Each 1' x 10' plot was subsampled for vegetative cover using 10, 1' x 1' plots.

Area cover of all herbaceous semi-woody and woody species was estimated within each square foot plot. Data of shrub crown cover and basal cover of plains pricklypear, Hood's phlox, and Hooker sandwort were not combined when comparing area cover to herbaceous production since this group of plants was not clipped.

Forage production was determined by clipping herbaceous species at ground or crown level. The clipping procedure was conducted on or near the same date as the previous years for each exclosure. Clippings were oven-dried at 70°C for 24 hours prior to weighing.

On areas where utilization had occurred prior to clipping, utilization estimates by species were made. These estimates were made at the same time and on the same plots where clipping was done. The utilization values were averaged by species for the 20 plots and later used to adjust production for vegetation lost by utilization.

As in 1968, 1971 and 1972, production of shrubby species was determined. By adding the shrubby species production to the clipped production, an index of total production was derived. Shrub production was obtained by a modified double-sampling technique during early September. Weight units are estimated on 20 quadrats, 4' x 5', spaced 6 - 12 steps apart across the study area. Weight units of characteristic shape and size are determined before estimates are made. Later 2 to 3 weight units per species are clipped. After drying in the oven at 70°C for 96 hours each unit is weighed. Average unit weights are later used to change the estimated units to grams and then to pounds per acre.

At the same time clipped production data are collected, pictures of the transects are taken giving a pictorial history from year to year at each study location.

Precipitation data are recorded from simple aluminum rain gauges installed at each exclosure. The rain gauge has a diameter of 2.75 inches; so each 100 milliliters of water recorded in the gauge equals one inch of precipitation. Oil is added to each gauge after reading to prevent evaporation. During the winter months antifreeze is added in known amounts to keep the gauges from freezing and breaking. Precipitation data are collected four times a year--April 15, July 1, September 1, and October 15.

Names of plants which occurred in the production study areas are shown in Table I. Included are the four letter code, genus, species, common names, life form and characteristic longevity of the plants.

Results 1973

The information presented in this 1973 annual report is in the same format as past Arid Land Ecology Annual Reports. Basal cover, frequency, production and precipitation data are presented on summary sheets, one summary for each study area treatment. Table II gives an alphabetical listing of study areas, the county where each is located, the treatments studied at each area, and also serves as a table of contents for reference to specific pages concerning each study area.

Production on each summary sheet is broken down into clipped production (herbaceous species), shrub production, total production and an adjusted total production for locations where utilization of vegetation had occurred prior to clipping. Table III gives the exclosures and utilization percentages for sites where utilization had occurred. Study areas not mentioned showed no significant amount of utilization.

Table IV gives a comparison of 1973 precipitation and production with average precipitation and production for the years 1962-1972 at 21 exclosures.

Results

Precipitation was high above average at Boysen, Lower Gov't. Draw, McGraw Flats, Sweetwater, and Upper Gov't. Draw, and an increase above average production was also observed. Other sites had varying precipitation and production relations which may have resulted from the 1972 season of precipitation and a change in personnel.

TABLE I. LIST OF PLANT NAMES WHICH OCCURRED IN PRODUCTION STUDY AREAS

Code	Genus--Species	Common Name	Life Form	Longevity
AGCR	Agropyron cristatum	Crested wheatgrass	Grass	Perennial
AGGL	Agoseris glauca	Pale agoseris	Forb	Perennial
AGGR	Agropyron griffithsii	Griffith's wheatgrass	Grass	Perennial
AGSM	Agropyron smithii	Western wheatgrass	Grass	Perennial
AGSP	Agropyron spicatum	Bluebunch wheatgrass	Grass	Perennial
ALDE	Alyssum desertorum	Desert Alyssum	Forb	Annual
ALTE	Allium textile	Textile onion	Forb	Perennial
ARAR	Artemisia arbuscula	Low sagebrush	Shrub	Perennial
ARFR	Artemisia frigida	Fringed sagewort	Half-shrub	Perennial
ARHO	Arenaria hookeri	Hooker sandwort	Forb	Perennial
ARHO^2	Arabis holboellii	Holboell rockcress	Forb	Perennial
ARNO	Artemisia nova	Black sagebrush	Shrub	Perennial
ARPE	Artemisia pedatifida	Brown sagebrush	Shrub	Perennial
ARSP	Artemisia spinescens	Bud sagebrush	Half-shrub	Perennial
ARTR	Artemisia tridentata	Big sagebrush	Shrub	Perennial
ASMI	Astragalus missouriensis	Missouri milkvetch	Forb	Perennial
AST	Astragalus spp.	Milkvetch	Forb	Perennial
ATAR	Atriplex argentea	Silverscale saltbush	Forb	Annual
ATCO	Atriplex confertifolia	Shadscale saltbush	Shrub	Perennial
ATNU	Atriplex nuttallii	Nuttall saltbush	Half-shrub	Perennial
BOGR	Bouteloua gracilis	Blue grama	Grass	Perennial
BRCO	Bromus commutatus	Hairy chess	Grass	Annual
BRJA	Bromus japonicus	Japanese chess	Grass	Annual
BRTE	Bromus tectorum	Cheatgrass	Grass	Annual
CAEL	Carex eleocharis	Needleleaf sedge	Sedge	Perennial
CAFI	Carex filifolia	Threadleaf sedge	Sedge	Perennial
CAMI	Camelina microcarpa	Littlepod falseflax	Forb	Annual
CANU	Calochortus nuttallii	Mariposa lily	Forb	Perennial
CAS	Castilleja spp.	Paintbrush	Forb	Perennial
CELE	Cercocarpus ledifolius	Curlleaf Mt. Mahogeny	Shrub	Perennial
CHEN	Chenoposium sp.	Goose foot	Forb	Annual
CHNA	Chrysothamnus nauseosus	Rubber rabbitbrush	Shrub	Perennial
CHVI	Chrysothamnusviscidiflorus	Green rabbitbrush	Shrub	Perennial
COPA	Commandra pallida	False toadflax	Forb	Perennial
CORA	Cordylanthus ramosus	Branched birdbeak	Forb	Annual
CRBR	Cryptantha bradburiana	Miners candle	Forb	Perennial
CRFL	Cryptantha flavoculata	Cryptantha	Forb	Perennial
CRIN	Cryptantha interrupta	Cryptantha	Forb	Perennial
CRY	Cryptantha spp.	Cryptantha	Forb	
CRE	Crepis spp.	Hawksbeard	Forb	
DEPI	Descurainia pinnata	Pinnate tansymustard	Forb	Annual
ELCI	Elymus cinerious	Basin wildrye	Grass	Perennial
ERCO	Erigeron compositus	Fernleaf fleabane	Forb	Perennial
ERMI	Eriogonum microthecum	Slenderbush	Forb	Perennial
EROV	Eriogonum ovalifolium	Cushion eriogonum	Forb	Perennial
ERPU	Erigeron pumilus	Fleabane	Forb	Perennial
ERUM	Erigonum Umbellatum	Sulfur wild buckwheat	Forb	Perennial
EULA	Eurotia lanata	Winterfat	Half-shrub	Perennial
EUSE	Euphorbia serphyllifolia	Thyme-leaved spurge	Forb	Annual
FEID	Festuca idahoensis	Idaho fescue	Grass	Perennial
FEOC	Festuca octoflora	Sixweek fescue	Grass	Annual
GIL	Gilia spp.	Gilia	Forb	Annual
GIPU	Gilia pumila	Gilia	Forb	Annual
GUSA	Gutierrezia sarothrae	Broom snakeweed	Half-shrub	Perennial
HAAC	Haplopappus acaulis	Stemless goldenweed	Forb	Perennial
HAGL	Halogeton glomeratus	Halogeton	Forb	Annual
HEPE	Helianthus petiolaris	Prairie sunflower	Forb	Annual
JUOS	Juniperus osteosperma	Utah juniper	Tree	Perennial
KOCR	Koeleria cristata	June grass	Grass	Perennial
LAC	Lactuca spp.	Lettuce	Forb	Annual
LAPU	Lactuca pulchella	Blue lettuce	Forb	Perennial
LARE	Lappula redowskii	Stickseed	Forb	Annual
LEDE	Lepidium densiflorum	Prairie pepperweed	Forb	Annual
LEPE	Lepidium perfoliatum	Clasping pepperweed	Forb	Annual
LEPU	Leptodactylon pungens	Granite gilia	Forb	Perennial
LILE	Linum lewisii	Blue flax	Forb	Perennial
LIRU	Lithosperum ruderale	Wayside gromwell	Forb	Annual
LUPU	Lupinus Pusillus	Rusty lupine	Forb	Annual
MACA	Machaeranthera canescens	Hoary aster	Forb	Perennial
MAGL	Machaerantheraglabriuscula	Woody aster	Half-shrub	Perennial

TABLE I. Continued

Code	Genus--Species	Common Name	Life Form	Longevity
MATA	Machaeranthera tanacetifolia	Aster	Forb	Annual
MIGR	Microsteris gracilis	Pink Microsteris	Forb	Annual
MONU	Monolepis nuttalliana	Nattall Monolepis	Forb	Annual
MUDI	Musineon divaricatum	Falsecarrot	Forb	Perennial
MUSQ	Munroa squarrosa	False buffalograss	Grass	Annual
OECA	Oenothera caespitosa	Tufted evening primrose	Forb	Perennial
OESC	Oenothera scapoidea	Evening primrose	Forb	Annual
OPPO	Opuntia polyacantha	Plains pricklypear	Forb	Perennial
ORHY	Oryzopsis hymenoides	Indian ricegrass	Grass	Perennial
PEN	Penstemon spp.	Penstemon	Forb	Perennial
PHHO	Phlox hoodii	Hood's phlox	Forb	Perennial
PHLO	Phlox longifolia	Long-leaf phlox	Forb	Perennial
PHMU	Phlox multiflora	Flowery phlox	Forb	Perennial
PLPA	Plantago patagonica	Wooly indianwheat	Forb	Annual
PLSP	Plantago spinescens	Spiny indianwheat	Forb	Annual
POAM	Poa ampla	Big bluegrass	Grass	Perennial
POAV	Polygonum aviculare	Prostrate knotweed	Forb	Annual
POFE	Poa fendleriana	Muttongrass	Grass	Perennial
POSE	Poa secunda	Sandberg bluegrass	Grass	Perennial
PSTE	Psoralea tenuiflora	Slimflower scurfpea	Forb	Annual
SAVE	Sarcobatus vermiculatus	Greasewood	Shrub	Perennial
SECA	Senecio canus	Wooly groundsel	Forb	Perennial
SELU	Senecio lugens	Old man	Forb	Annual
SEST	Sedum stenopetalum	Yellow stonecrop	Forb	Perennial
SIAL	Sisymbrium altissimum	Tumblemustard	Forb	Annual
SIHY	Sitanion hystrix	Squirreltail bottlebrush	Grass	Perennial
SPCO	Sphaeralcea coccinea	Scarlet globemallow	Forb	Perennial
SPAI	Sporobolus airoides	Alkali sacaton	Grass	Perennial
SPCR	Sporobolus cryptandrus	Sand dropseed	Grass	Perennial
STCO	Stipa comata	Needleandthread	Grass	Perennial
STWI	Stipa Williamsi	Williams needlegrass	Grass	Perennial
SYOC	Symphoricarpos occidentalis	Western snowberry	Shrub	Perennial
TAOF	Taraxacum officinale	Common dandylion	Forb	Perennial
TECA	Tetradymia canescens	Gray horsebrush	Shrub	Perennial
TESP	Tetradymia spinosa	Spiny horsebrush	Shrub	Perennial
TRI	Trifolium spp.	Clover	Forb	
VIAM	Vicia americana	American vetch	Forb	Perennial
VIO	Violaceae	Violet family	Forb	Perennial
VINU	Viola nuttallii	Nuttall violet	Forb	Perennial

TABLE II. An alphabetical listing of study areas, the county where each occurs, the treatments studied at each area, and table of contents.

County Name Code	Exclosure Name	County	Treatment	Page
2017	Big Trails G.R.I. Exc.	Washakie	Inside Spray	
			Outside Native	
1002	Boysen Reservoir Exc.	Fremont	Inside Native	
			Outside Native	
2007	Bud Kimball Exc.	Washakie	Inside Native	
			Outside Native	
			Inside Spray	
			Outside Spray	
2002	Buffalo Creek Exc.	Washakie	Inside Native	
			Outside Native	
2003	Burnt Wagon Exc.	Washakie	Inside Native	
			Outside Native	
1501	Cochran Exc.	HotSprings	Inside Native	
			Inside Pitted	
			Outside Native	
			Outside Spray	
1901	Cumberland Exc. #1	Uinta	Inside Native	
			Outside Native	
			Inside Spray	
			Outside Spray	
1201	Cumberland Exc. #2	Lincoln	Inside Native	
			Outside Native	
			Inside Spray	
			Outside Spray	
1202	Cumberland Exc. #3	Lincoln	Inside Native	
			Outside Native	
			Inside Spray	
			Outside Spray	
1902	Cumberland Exc. #4	Uinta	Inside Native	
			Outside Native	
2004	Demer Exc.	Washakie	Inside Native	
			Outside Native	
2005	Dutch Nick Exc.	Washakie	Inside Native	
			Outside Native	
0404	Farson Exc.	Sweetwater	Inside Native	
			Outside Native	
1007	Granite Mountain Exc.	Fremont	Inside Native	
			Outside Native	
			Inside Spray	
			Outside Spray	
0901	Halogeton Pasture Exc. #1	Big Horn	Inside Native	
0905	Halogeton Pasture Exc. #2	Big Horn	Inside Native	
0903	Halogeton Pasture Exc. #3	Big Horn	Inside Native	

TABLE II. Continued

County Name Code	Exclosure Name	County	Treatment	Page
0913	Horse Creek Exc.	Big Horn	Inside Agsp	
			Outside Agsp	
			Inside Agsm	
			Outside Agsm	
0914	Kane Deer Exc.	Big Horn	Inside Native	
			Outside Native	
			Inside Spray	
			Outside Spray	
0921	Kane G.R.I. Exc.	Big Horn	Inside Native	
			Outside Spray	
1502	Kirby Creek Exc.	Hot Springs	Inside Native	
			Outside Native	
1001	Lander Ant Exc.	Fremont	Inside Native	
			Outside Native	
1003	Lower Gov't. Draw Exc.	Fremont	Inside Native	
			Outside Native	
			Inside Spray	
			Outside Spray	
1004	McGraw Flat Exc.	Fremont	Inside Native	
			Outside Native	
0920	Medicine Lodge B.R.I. Exc.	Big Horn	Inside Spray	
			Outside Native	
2301	Mesa Antelope	Sublette	Inside Native	
			Outside Native	
1503	North Butte Relic Area	Hot Springs	Native	
1504	Round Top Relic Area	Hot Springs	Native	
1505	Sand Gulch Exc.	Hot Springs	Inside Native	
			Outside Native	
1009	Shoshone Ant Exc. #2 North	Fremont	Inside Native	
	South		Inside Native	
			Outside Native	
1011	Shoshone Ant Exc. #4 North	Fremont	Inside Native	
	South		Inside Native	
			Outside Native	
1013	Shoshone Ant Exc. #7 North	Fremont	Inside Native	
	South		Inside Native	
			Outside Native	
1014	Shoshone Ant Exc. #8 North	Fremont	Inside Native	
	South		Inside Native	
			Outside Native	
1015	Shoshone Ant Exc. #9 North	Fremont	Inside Native	
	South		Inside Native	
			Outside Native	

TABLE II. Continued

County Name Code	Exclosure Name	County	Treatment	Page
1017	Shoshone Ant Exc. #11 North	Fremont	Inside Native	
	South		Inside Native	
			Outside Native	
2009	Smilo Exc.	Washakie	Inside Native	
			Outside Native	
			Inside Spray	
			Outside Spray	
1005	Sweetwater Exc.	Fremont	Inside Arno	
			Outside Arno	
			Inside Artr	
			Outside Artr	
2010	Two Mile Hill Exc.	Washakie	Inside Native	
			Outside Native	
1006	Upper Gov't. Draw Exc.	Fremont	Inside Native	
			Outside Native	
			Inside Spray	
			Outside Spray	
2006	West Pasture Exc.	Washakie	Inside Native	
			Outside Native	

TABLE III. Adjustments in production for utilization occurring prior to clipping.*

Exclosure	Treatment	Species	% Utilization	Adjusted Production (#/A.)
Boyson	Out Native	BOGR	2.0	3.76
Bud Kimball	Out Native	AGSM	10.0	12.25
		POSE	5.0	1.83
				14.08
	Out Spray	AGMS	10.0	5.33
		POSE	15.0	6.45
				11.78
Cumberland #2	Out Native	AGSM	2.0	1.25
		POFE	2.0	0.62
				1.87
	Out Spray	AGSM	7.5	12.38
		POFE	.5	0.03
		POSE	8.5	5.10
		Per Forbs	.5	0.17
				17.68
Demer	Out Native	AGSM	2.0	0.40
Halogeton Past. #3		SIHY	.1	0.05
Horse Creek	Out AGSM	AGSM	20.0	35.41
	Out AGSP	AGSP	25.0	13.27
Lower Gov't. Draw	Out Native	AGSM	43.0	36.71
		POSE	1.5	0.08
		STCO	39.0	7.04
				43.83
	Out Spray	AGSM	6.5	2.58
		KOCR	7.5	0.14
		STCO	12.0	1.31
				4.03
Mesa Antelope	Out Native	AGSM	1.5	1.09
Medicine Lodge	Out Native	AGSM	1.0	0.08
Two Mile Hill	Out Native	AGSP	.1	0.02
		ORHY	.25	0.02
				0.04

TABLE III. Continued

Exclosure	Treatment	Species	% Utilization	Adjusted Production (#/A.)
Upper Gov't. Draw	Out Native	AGSM	16.0	12.32
		KOCR	13.75	1.55
				13.87
	Out Spray	AGSM	27.5	20.94
		KOCR	5.5	0.46
				21.40
West Pasture	Out Native	ORHY	3.2	0.20
		POSE	0.6	0.02
		SIHY	0.2	0.01
		SPCR	0.025	0.003
				.233

*Study areas not mentioned showed no sign of utilization.

TABLE IV. Comparison of average (years 1962-1973) precipitation and clipped production with 1973 precipitation and herbage production at exclosures begun in 1962.

	Precipitation (in.)		Clipped Production (#/A)							
			In Native		Out Native		In Spray		Out Spray	
Exclosure	Avg.	'73	Avg.	'73	Avg.	'73	Avg.	'73	Avg.	'73
Bud Kimball	11.4	11.62	219	81	275	287	533	575	455	399
Lower Gov't. Draw	10.91	15.35	326	291	256	131	643	468	185	80
Smilo	8.34	8.72	136	117	93	170	353	463	411	599
Upper Gov't. Draw	8.70	13.51	235	295	219	114	422	331	258	113
Cochran	10.14	11.40	234	167	243	398	-	-	-	-
Demer	8.09	7.19	161	184	91	111	-	-	-	-
Farson	6.67	9.49	111	107	83	79	-	-	-	-
Horse Creek Agsp	11.56	12.42	435	290	179	73	-	-	-	-
Horse Creek Agsm	11.56	12.42	468	497	178	180	-	-	-	-
Lander Ant	8.76	7.01	233	139	231	231	-	-	-	-
McGraw Flats	10.04	14.65	239	252	199	303	-	-	-	-
North Butte	9.59	10.67	579	530	-	-	-	-	-	-
Sweetwater	8.57	14.01	264	293	206	316	-	-	-	-
Burnt Wagon	6.19	6.45	255	194	237	126	-	-	-	-
Sand Gulch	8.91	8.52	631	446	581	433	-	-	-	-
Two Mile Hill	9.40	9.89	481	275	455	315	-	-	-	-
West Pasture	5.70	6.24	407	204	219	144	-	-	-	-
Boysen	5.02	6.98	216	301	193	267	-	-	-	-
Dutch Nick	6.96	6.46	311	279	277	314	-	-	-	-
Buffalo Creek	10.49	10.72	467	213	358	247	-	-	-	-
Kirby Creek	9.00	9.69	533	556	483	570	-	-	-	-

Summary of Clipping Production and Precipitation Data by Study Area

```
16 36    APR 11  RUNHPAA...
            2017    BIG     TRAILS G.R.I  AUG     10/73  OUT     NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT   PLANT   TOTAL   AVE.    PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-    PLOT    WGT.    WGT.    UNIT    PER
                BASAL   CENT    SITION    FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL             BASE    SQ.FT.  OCCUR-  AREA
                PER-    AREA              20              RENCES
                CENT

  6    *ARTR     90.00 4.50                 4
   PER GRASS     11.50  0.57                8       8.09    1.01   0.70   38.85
  3    AGSP       5.00 .250       12.9      2       7.18    3.59   1.44   34.476
  3    POSE       6.50 .325       16.7      8       0.91    0.11   0.14   4.3695
   ANN GRASS     26.80  1.34               19      24.26    1.28   0.91  116.49
  5    BRTE      26.30 1.31       67.6     19
  5    FEOC       0.50 2.50E-02 1.29        2
   ANN FORBS      0.60  0.03                2       0.13    0.06   0.22    0.62
  4    MIGR       0.20 T          .514      1
  4    PLSP       0.40 2.00E-02 1.03        2
     TOTAL             6.44    100.00              32.480                 155.96

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

No Shrub Data Collected

```
PRECIPITATION DATA
 RAIN GUAGE NO. 150  BIG     TRAILS G.R.I  AUG     10/73
OCT. 15 TO APR. 15 =  7.35
APR. 15 TO JULY 1  =  1.96
JULY 1 TO SEPT. 1  =  1.60
SEPT. 1 TO OCT. 15 =  2.88
SEASON TOTAL       = 13.79
LONG TERM AVERAGE  = 13.41
```

**No utilization

```
           2017   BIG    TRAILS G.R.I. AUG    10/73  INSIDE SPRAY

                         NUMBER PLOTS = 20
                           PLOT SIZE 1X1
PLANT  PLANT  TOTAL  AVE.   PERCENT ABS.    TOTAL  AVE.   WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-  PLOT    WGT.   WGT.   UNIT   PER
              BASAL  CENT   SITION  FREQ.   GMS/20 /PLOT  BASAL  AC.
              AREA   BASAL          BASE    SQ.FT. OCCUR- AREA
              PER-   AREA           20             RENCES
              CENT

   ANN GRASS   46.60  2.33              20    52.31   2.62  1.12 251.18
  5   BRTE     46.20 2.31     97.5      20
  5   FEOC      0.40 2.00E-02 .844       3
   ANN FORBS    0.80  0.04               4     0.14   0.03  0.17   0.67
  4   DEPI      0.30 1.50E-02 .633       2
  4   MIGR      0.50 2.50E-02 1.05       4
     TOTAL           2.37    100.00         52.450               251.85

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

No Shrub Data Collected

```
PRECIPITATION DATA
 RAIN GUAGE NO.  150 BIG    TRAILS G.R.I. AUG    10/73
OCT. 15 TO APR. 15 =   2.35
APR. 15 TO JULY 1  =   1.96
JULY 1 TO SEPT. 1  =   1.60
SEPT. 1 TO OCT. 15 =   2.88
SEASON TOTAL       =  13.79
LONG TERM AVERAGE  =  13.41
```

**No utilization

```
        10C2   BOYSEN EXCL            JULY   25/73  INSIDE NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT   PLANT    TOTAL   AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME     TRANS   PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
                 BASAL   CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
                 AREA    BASAL            BASE    SQ.FT.  OCCUR-  AREA
                 PER-    AREA             20              RENCES
                 CENT

  6    *OPPC     18.00 .900                6
   PER GRASS    187.10  9.35              19      54.68    2.88   0.29  262.56
  3     BOGR    187.10 9.35      87.4     19      54.68    2.88   0.29   262.56
   PER FORBS     27.00  1.35               7       8.08    1.15   0.30   38.80
  2     HAGL      4.00 .200      1.87      1
  2     SPCC     23.00 1.15      10.7      7
     TOTAL              11.60   100.00            62.760                301.35

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS


     OPPO                                                               10.92
                                                    Shrub Prod.        312.27


PRECIPITATION DATA
 RAIN GUAGE NO. 10    BOYSEN EXCL           JULY   25/73
OCT. 15 TO APR. 15 =  1.94
APR. 15 TO JULY 1  =  1.01
JULY 1 TO SEPT. 1  =  1.35
SEPT. 1 TO OCT. 15 =  2.68
SEASON TOTAL       =  6.98
LONG TERM AVERAGE  =  5.02
```

**No utilization

1002 BOYSEN EXCL JULY 25/73 OUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*OPPO	9.00	.450		1				
	PER GRASS	111.00	5.55		17	39.14	2.30	0.35	187.94
3	BOGR	111.00	5.55	77.6	17	39.14	2.30	0.35	187.94
	PER FORBS	16.60	0.83		5	5.65	1.13	0.34	27.13
2	AST	3.10	.155	2.17	5				
2	GACO	4.00	.200	2.80	1				
2	SPCO	9.50	.475	6.64	3				
	ANN FORBS	15.50	0.77		2	10.80	5.40	0.70	51.86
4	HAGL	15.50	.775	10.8	2				
	TOTAL		7.60	100.00		55.590			266.93

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

OPPO

Shrub Prod.	12.13
Total	279.06

PRECIPITATION DATA
RAIN GUAGE NO. 10 BOYSEN EXCL JULY 25/73
OCT. 15 TO APR. 15 = 1.94
APR. 15 TO JULY 1 = 1.01
JULY 1 TO SEPT. 1 = 1.35
SEPT. 1 TO OCT. 15 = 2.68
SEASON TOTAL = 6.98
LONG TERM AVERAGE = 5.02

utilization	3.76
Production Adjusted	282.82

**Production adjusted for utilization

```
        2007   BUD    KIMBAL EXCL   JULY   19/73  INSIDE NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.   TOTAL   AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT   WGT.    WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.  GMS/20  /PLOT   BASAL  AC.
               AREA   BASAL           BASE   SQ.FT.  OCCUR-  AREA
               PER-   AREA            20             RENCES
               CENT

  6   *ARTR    268.00 13.4              11
  6   *OPPO     20.00 1.00               3
  6   *PHHO      6.50 .325               5
   PER GRASS    10.80  0.54             19    14.75    0.78  1.37  70.82
  3   AGSM       5.80 .290     39.2     19    10.65    0.56  1.84  51.138
  3   POSE       4.80 .240     32.4     15     4.10    0.27  0.85  19.687
  3   SHIY       0.20 T        1.35      1     0.00    0.00  0.00  0.0000
   PER FORBS     2.60  0.13              5     1.54    0.31  0.59   7.39
  2   ALTE       0.20 1.00E-02 1.35      2
  2   LERE       1.00 5.00E-02 6.76      1
  2   MACA       1.40 7.00E-02 9.46      5
   ANN FORBS     1.40  0.07              6     0.60    0.10  0.43   2.88
  4   DEPI       0.60 3.00E-02 4.05      6
  4   PLSP       0.80 4.00E-02 5.41      6
     TOTAL           15.46   100.00           16.890                81.101

         * NOT COMPUTED IN PERCENT COMPOSITION
         T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR	86.55
OPPO	27.80
PHHO	7.20
Shrub Prod.	121.55
Total	202.65

```
PRECIPITATION DATA
 RAIN GUAGE NO.    41 BUD    KIMBAL EXCL   JULY   19/73
OCT. 15 TO APR. 15 =   2.75
APR. 15 TO JULY 1  =   3.30
JULY 1 TO SEPT. 1  =   2.61
SEPT. 1 TO OCT. 15 =   2.96
SEASON TOTAL       =  11.62
LONG TERM AVERAGE  =   9.40
```

**No utilization

2007 BUD KIMBAL EXCEL JULY 19/73 OUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	86.00	4.30		5				
6	*OPPO	7.00	.350		1				
6	*PHHO	2.00	.100		1				
PER GRASS		11.70	0.58		20	39.90	1.99	3.41	191.59
3	AGSM	6.20	.310	37.1	20	25.51	1.28	4.11	122.49
3	POSE	5.30	.265	31.7	19	7.63	0.40	1.44	36.637
3	SIHY	0.20	T	1.20	1	6.76	6.76	33.80	32.459
PER FORBS		0.90	0.04		4	2.49	0.62	2.77	11.96
2	CAS	0.30	1.50E-02	1.80	1				
2	MACA	0.60	3.00E-02	3.59	4				
ANN GRASS		0.20	0.01		1	0.45	0.45	2.25	2.16
5	BRTE	0.10	T	.599	1				
5	FEOC	0.10	T	.599	1				
ANN FORBS		3.90	0.19		13	16.98	1.31	4.35	81.53
4	DEPI	0.40	2.00E-02	2.40	4				
4	LARE	0.90	4.50E-02	5.39	7				
4	LEDE	0.50	2.50E-02	2.99	4				
4	PLSP	2.10	.105	12.6	13				
TOTAL			5.58	100.00		59.820			287.24

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR		66.58
OPPO		6.54
PHHO	Shrub Prod.	2.96
	Total	76.08
		363.32

PRECIPITATION DATA
RAIN GUAGE NO. 41 BUD KIMBAL EXCEL JULY 19/73
OCT. 15 TO APR. 15 = 2.75
APR. 15 TO JULY 1 = 3.30
JULY 1 TO SEPT. 1 = 2.61
SEPT. 1 TO OCT. 15 = 2.96
SEASON TOTAL = 11.62
LONG TERM AVERAGE = 9.40

utilization	14.08
Production Adjusted	377.40

**Production adjusted for utilization

2007 BUD KIMBAL EXCL JULY 19/73 INSIDE SRRAY

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*OPPO	10.50	.525		3				
6	*PHHO	3.00	.150		1				
PER GRASS		12.50	0.62		14	40.85	2.92	3.27	196.15
3	AGSM	6.50	.325	17.4	14	26.67	1.90	4.10	128.06
3	POSE	3.10	.155	8.31	11	8.76	0.80	2.83	42.063
3	SIHY	0.50	2.50E-02	1.34	1	1.47	1.47	2.94	7.0585
3	STCO	2.40	.120	6.43	2	3.95	1.97	1.65	18.967
PER FORBS		4.80	0.24		4	5.63	1.41	1.17	27.03
2	ALTE	0.10	T	.268	1				
2	MACA	1.70	8.50E-02	4.56	4				
2	MAGL	3.00	.150	8.04	1				
ANN GRASS		6.40	0.32		18	25.07	1.39	3.92	120.38
5	BRTE	4.80	.240	12.9	18				
5	FEOC	1.60	8.00E-02	4.29	10				
ANN FORBS		13.60	0.68		13	48.14	3.70	3.54	231.15
4	DEPI	0.70	3.50E-02	1.88	4				
4	LARE	10.30	.515	27.6	13				
4	LEDE	0.70	3.50E-02	1.88	6				
4	PLSP	1.90	9.50E-02	5.09	6				
	TOTAL		2.54	100.00		119.69			574.71

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

OPPO	18.44
PHHO	.73
	19.17
	593.88

PRECIPITATION DATA
RAIN GUAGE NO. 41 BUD KIMBAL EXCL JULY 19/73
OCT. 15 TO APR. 15 = 2.75
APR. 15 TO JULY 1 = 3.30
JULY 1 TO SEPT. 1 = 2.61
SEPT. 1 TO OCT. 15 = 2.96
SEASON TOTAL = 11.62
LONG TERM AVERAGE = 9.40

**No utilization

```
        2007   BUD    KIMBAL EXCL   JULY   19/73  OUT    SPRAY

                            NUMBER PLOTS = 20
                              PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT   WGT.   WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL           BASE   SQ.FT. OCCUR-  AREA
               PER-   AREA            20            RENCES
               CENT

 6   *ARTR      8.00 .400                 1
 6   *OPPC      8.00 .400                 1
  PER GRASS    10.50  0.52               19    20.05    1.06  1.91   96.27
 3   AGSM       3.90 .195      16.5      15    11.09    0.74  2.84   53.251
 3   POSE       6.60 .330      27.8      19     8.96    0.47  1.36   43.023
  PER FORBS     0.30  0.01                2     0.24    0.12  0.80    1.15
 2   MACA       0.30 1.50E-02 1.27        2
  ANN GRASS     1.80  0.09               15     3.34    0.22  1.86   16.04
 5   FEOC       1.80 9.00E-02 7.59       15
  ANN FORBS    11.10  0.55               19    59.48    3.13  5.36  285.60
 4   DEPI       1.30 6.50E-02 5.49       10
 4   LARE       2.20 .110      9.28      12
 4   LEDE       0.80 4.00E-02 3.38        7
 4   PLSP       6.80 .340     28.7       19
   TOTAL             1.98    100.00            83.110                399.07

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE
```

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	14.65
OPPO	7.32
Shrub Prod.	21.97
Total	421.04

```
PRECIPITATION DATA
 RAIN GUAGE NO.   41 BUD    KIMBAL EXCL   JULY   19/73
OCT. 15 TO APR. 15 =  2.75
APR. 15 TO JULY 1  =  3.30
JULY 1 TO SEPT. 1  =  2.61
SEPT. 1 TO OCT. 15 =  2.96
SEASON TOTAL       = 11.62
LONG TERM AVERAGE  =  9.40
```

utilization	11.78
Production Adjusted	432.82

**Production adjusted for utilization

```
           2002   BUFFAL CREEK  EXCL   JULY   20/73  INSIDE NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT   PLANT    TOTAL   AVE.    PERCENT  ABS.    TOTAL   AVE.     WGT./   LBS
CODE    NAME     TRANS   PER-    COMPO-   PLOT    WGT.    WGT.     UNIT    PER
                 BASAL   CENT    SITION   FREQ.   GMS/20  /PLOT    BASAL   AC.
                 AREA    BASAL            BASE    SQ.FT.  OCCUR-   AREA
                 PER-    AREA             20              RENCES
                 CENT

  6    *ARTR    154.00 7.70                11
  6    *OPPC      3.00 .150                 1
  6    *PHHC     31.00 1.55                11
   PER GRASS     55.70  2.78               20     43.40     2.17   0.78  208.39
  3     AGSP     47.00 2.35       71.5     20     40.78     2.04   0.87  195.81
  3     BOGR      1.10 5.50E-02 1.67        3      0.80     0.27   0.73  3.8414
  3     POSE      7.60 .380       11.6     14      1.82     0.13   0.24  8.7391
   PER FORBS      9.40  0.47                4      0.74     0.18   0.08    3.55
  2     ASPU      2.00 .100       3.04      1
  2     CAS       0.20 T          .304      1
  2     CRE       2.00 .100       3.04      1
  2     ERPU      0.10 T          .152      1
  2     SPCC      5.10 .255       7.76      4
   ANN GRASS      0.10  0.00                1      0.01     0.01   0.10    0.05
  5     BRTE      0.10 T          .152      1
   ANN FORBS      0.50  0.02                3      0.11     0.04   0.22    0.53
  4     DEPI      0.10 T          .152      1
  4     LEDE      0.30 1.50E-02 .457        3
  4     PLSP      0.10 T          .152      1
     TOTAL            12.68     100.00            44.260                 212.52

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE
```

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	140.91
EULA	3.24
GUSA	1.11
OPPO	9.09
PHHO	15.21
Shrub Prod.	169.56
Total	382.08

```
PRECIPITATION DATA
 RAIN GUAGE NO.  7   BUFFAL CREEK  EXCL   JULY   20/73
OCT. 15 TO APR. 15 =   3.20
APR. 15 TO JULY 1  =   3.30
JULY 1 TO SEPT. 1  =   1.32
SEPT. 1 TO OCT. 15 =   2.90
SEASON TOTAL       =  10.72
LONG TERM AVERAGE  =  10.49
```

**No utilization

```
        2002   BUFFAL CREEK  EXCL   JULY   20/73  OUT    NATIVE

                          NUMBER PLOTS = 20
                            PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT   WGT.   WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL           BASE   SQ.FT. OCCUR-  AREA
               PER-   AREA            20            RENCES
               CENT

  6   *ARTR    248.00 12.4              11
  6   *CPPO     12.00 .600               2
   PER GRASS    66.90  3.34             19     41.95    2.21   0.63 201.43
  3    AGSM     19.80 .990      24.5     9     22.59    2.51   1.14  108.47
  3    AGSP     10.50 .525      13.0    11     11.52    1.05   1.10  55.316
  3    BOGR      5.00 .250      6.18     4      0.98    0.24   0.20  4.7057
  3    POSE     31.60 1.58      39.1    19      6.86    0.36   0.22  32.940
   PER FORBS     7.00  0.35              2      1.03    0.51   0.15    4.95
  2    ERPU      5.00 .250      6.18     1
  2    SPCO      2.00 .100      2.47     2
   ANN GRASS     5.70  0.28              9      6.92    0.77   1.21   33.23
  5    BRTE      5.70 .285      7.05     9
   ANN FORBS     1.30  0.06              9      1.45    0.16   1.12    6.96
  4    LEDE      0.20 T         .247     1
  4    PLSP      1.10 5.50E-02 1.36      9
     TOTAL            17.04    100.00          51.350                 246.57

        * NCT COMPUTED IN PERCENT COMPOSITION
        T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR	110.86
EULA	1.05
OPPO	5.22
PHHO	2.20
	119.33

```
PRECIPITATION DATA
 RAIN GUAGE NO.   7   BUFFAL CREEK  EXCL   JULY   20/73
OCT. 15 TO APR. 15 =   3.20
APR. 15 TO JULY 1  =   3.30
JULY 1 TO SEPT. 1  =   1.32
SEPT. 1 TO OCT. 15 =   2.90
SEASON TOTAL       =  10.72
LONG TERM AVERAGE  =  10.49
```

**No utilization

```
11 43    MAY 01  RUNMRBA...
            2003   BURNT  WAGON  EXCL   JULY   11/73  INSIDE NATIVE

                         NUMBER OF PLOTS
                  COVER = 200, PRODUCTION = 20
                   PLOT SIZE 1 FT. X 10 FT.
PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.    WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT   WGT.   WGT.    UNIT   PER
              BASAL  CENT   SITION   FREQ.  GMS/   /PLOT   BASAL  AC.
              AREA   BASAL           BASE   200    OCCUR-  AREA
              PER-   AREA            200    SQ.FT. RENCES
              CENT

  6  *OPPO      0.5  T                   1
  1  ATNU    1259.1  6.30       98.5     78.  377.74    4.84  0.30  181.38
   PER GRASS    1.2  6.00E-03            10     1.39    0.14  1.16  .66744
  3  SIHY       1.2  T         9.39E-02  10     1.39    0.14  1.16  .66744
   PER FORBS  18.00   0.09               90    24.19    0.27  1.34  11.62
  2  ALTE       3.4  1.70E-02 .266       33
  2  MUDI      14.6  7.30E-02 1.14       90
     TOTAL           6.4      100.00         403.320                193.662

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

No Shrub Production Observed

```
PRECIPITATION DATA
 RAIN GUAGE NO. 17    BURNT  WAGON  EXCL   JULY   11/73
OCT. 15 TO APR. 15 =   1.18
APR. 15 TO JULY 1  =   2.05
JULY 1 TO SEPT. 1  =   2.10
SEPT. 1 TO OCT. 15 =   1.12
SEASON TOTAL       =   6.45
LONG TERM AVERAGE  =   6.19
```

**No utilization

```
          2003   BURNT  WAGON  EXCL   JULY   11/73  CUT    NATIVE

                            NUMBER OF PLOTS
                     COVER = 200, PRODUCTION = 20
                      PLOT SIZE 1 FT. X 10 FT.
PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT   WGT.   WGT.   UNIT   PER
              BASAL  CENT   SITION   FREQ.  GMS/   /PLOT  BASAL  AC.
              AREA   BASAL           BASE   200    OCCUR- AREA
              PER-   AREA            200    SQ.FT. RENCES
              CENT

 1  ATNU      661.6  3.31     94.2     75   235.44   3.14  0.36  113.05
  PER GRASS     1.9  9.50E-03          10     0.88   0.09  0.46  .42255
 3  SIHY        1.9  T        .271     10     0.88   0.09  0.46  .42255
  PER FORBS   38.80  0.19             104    25.34   0.24  0.65  12.17
 2  ALTE        2.9  1.45E-02 .413     25
 2  MUDI       35.9  .179     5.11    104
    TOTAL            3.5    100.00         261.660               125.641

     * NOT COMPUTED IN PERCENT COMPOSITION
     T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

No Shrub Production Observed

```
PRECIPITATION DATA
 RAIN GUAGE NO. 17   BURNT  WAGON  EXCL   JULY   11/73
OCT. 15 TO APR. 15 =  1.18
APR. 15 TO JULY 1  =  2.05
JULY 1 TO SEPT. 1  =  2.10
SEPT. 1 TO OCT. 15 =  1.12
SEASON TOTAL       =  6.45
LONG TERM AVERAGE  =  6.19
```

**No utilization

1501 COCHRA EXCL JULY 25/73 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	173.00	8.65		10				
6	*OPPO	5.10	.255		2				
6	*PHHO	10.00	.500		2				
	PER GRASS	60.80	3.04		17	30.41	1.79	0.50	146.02
3	AGSM	16.90	.845	26.1	16	20.12	1.26	1.19	96.610
3	BOGR	7.00	.350	10.8	1	1.27	1.27	0.18	6.0982
3	POSE	33.80	1.69	52.2	17	4.75	0.28	0.14	22.808
3	STCO	3.10	.155	4.78	2	4.27	2.13	1.38	20.503
	ANN GRASS	2.40	0.12		11	4.08	0.37	1.70	19.59
5	BRTE	2.20	.110	3.40	11				
5	FEOC	0.20	1.00E-02	.309	2				
	ANN FORBS	1.60	0.08		9	0.38	0.04	0.24	1.82
4	DEPI	0.90	4.50E-02	1.39	9				
4	LARE	0.10	T	.154	1				
4	PLSP	0.50	2.50E-02	.772	5				
4	SAKA	0.10	T	.154	1				
	TOTAL		12.64	100.00		34.870			167.44

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	402.35
OPPO	3.30
PHHO	5.76
Shrub Prod.	411.41
Total	578.85

PRECIPITATION DATA
RAIN GUAGE NO. 76 COCHRA EXCL JULY 25/73
OCT. 15 TO APR. 15 = 3.63
APR. 15 TO JULY 1 = 2.32
JULY 1 TO SEPT. 1 = 3.22
SEPT. 1 TO OCT. 15 = 2.23
SEASON TOTAL = 11.40
LONG TERM AVERAGE = 10.14

**No utilization

```
        1501   COCHRA EXCL            JULY   25/73  CUT     NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.   WGT.    UNIT   PER
               BASAL  CENT    SITION   FREQ.   GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL            BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA             20             RENCES
               CENT

 6    *ARTR   143.00 7.15               6
 6    *PHHC     2.00 .100               2
  PER GRASS   110.00  5.50             19      63.67    3.35  0.58 305.72
 3     AGSM    32.40 1.62       26.4   19      46.73    2.46  1.44  224.38
 3     BOGR    17.00 .850       13.9    1       1.67    1.67  0.10  8.0188
 3     POSE    60.10 3.00       49.1   19      15.07    0.79  0.25  72.362
 3     STCO     0.50 2.50E-02 .408      1       0.20    0.20  0.40  .96034
  PER FORBS     0.30  0.01              3       0.58    0.19  1.93    2.78
 2     UMB      0.30 1.50E-02 .245      3
  ANN GRASS     9.60  0.48             18      15.91    0.88  1.66   76.39
 5     BRTE     9.40 .470       7.67   18
 5     FEOC     0.20 1.00E-02 .163      2
  ANN FORBS     2.60  0.13             11       2.73    0.25  1.05   13.11
 4     DEPI     0.40 2.00E-02 .327      4
 4     LARE     1.10 5.50E-02 .898     11
 4     PLSP     1.10 5.50E-02 .898      7
    TOTAL           13.37   100.00             82.890                398.01

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR	171.42
OPPO	13.80
PHHO	2.13
Shrub Prod.	187.35
Total	585.36

```
PRECIPITATION DATA
 RAIN GUAGE NO. 76   COCHRA EXCL             JULY   25/73
OCT. 15 TO APR. 15 =  3.63
APR. 15 TO JULY 1  =  2.32
JULY 1 TO SEPT. 1  =  3.22
SEPT. 1 TO OCT. 15 =  2.23
SEASON TOTAL       = 11.40
LONG TERM AVERAGE  = 10.14
```

**No utilization

```
        1501   COCHRA EXCL           JULY   25/73  INSIDE PITTED

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT    WGT.    WGT.    UNIT    PER
               BASAL  CENT   SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
               AREA   BASAL           BASE    SQ.FT.  OCCUR-  AREA
               PER-   AREA            20              RENCES
               CENT

 6    *ARTR    164.00 8.20              6
  PER GRASS     95.00  4.75            16     118.20    7.39   1.24 567.56
 3    AGCR      63.60 3.18       63.9  16     109.01    6.81   1.71  523.43
 3    AGSM       3.20 .160       3.22   7       3.86    0.55   1.21  18.535
 3    POSE      28.20 1.41       28.3  14       5.33    0.38   0.19  25.593
  ANN GRASS      4.00  0.20            16       9.06    0.57   2.26  43.50
 5    BRTE       3.40 .170       3.42  16
 5    FEOC       0.60 3.00E-02 .603     6
  ANN FORBS      0.50  0.02             4       0.27    0.07   0.54   1.30
 4    DEPI       0.10 T         .101    1
 4    PLSP       0.40 2.00E-02 .402     4
    TOTAL             13.17   100.00          127.53                 612.36

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

No Shrub Production Observed

```
PRECIPITATION DATA
 RAIN GUAGE NO. 76   COCHRA EXCL          JULY   25/73
OCT. 15 TO APR. 15 =     3.63
APR. 15 TO JULY 1  =     2.32
JULY 1 TO SEPT. 1  =     3.22
SEPT. 1 TO OCT. 15 =     2.23
SEASON TOTAL       =    11.40
LONG TERM AVERAGE  =    10.14
```

**No utilization

```
          1501   COCHRA EXCL          JULY   25/73  OUT    SPRAY

                          NUMBER PLOTS = 20
                            PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.    TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT    WGT.   WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.   GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL           BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA            20             RENCES
               CENT

  PER GRASS   122.00  6.10             20      73.58   3.68  0.60 353.31
 3   AGSM      26.50 1.32      19.1    17      36.43   2.14  1.37  174.93
 3   BOGR       7.00 .350      5.04     2       0.92   0.46  0.13  4.4176
 3   POSE      85.50 4.27      61.6    20      29.32   1.47  0.34  140.79
 3   STCO       3.00 .150      2.16     1       6.91   6.91  2.30  33.180
  PER FORBS     0.10  0.00              1       0.26   0.26  2.60    1.25
 2   CRE        0.10 T        7.20E-02  1
  ANN GRASS    14.50  0.72             20      29.44   1.47  2.03 141.36
 5   BRTE      14.40 .720      10.4    20
 5   FEOC       0.10 T        7.20E-02  1
  ANN FORBS     2.30  0.11              9       4.86   0.54  2.11   23.34
 4   CHAL       0.20 1.00E-02 .144      2
 4   LARE       1.10 5.50E-02 .792      9
 4   PLSP       0.90 4.50E-02 .648      9
 4   SAKA       0.10 T        7.20E-02  1
   TOTAL              6.94   100.00           108.14                519.26

     * NOT COMPUTED IN PERCENT COMPOSITION
     T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR		5.67
OPPO		1.95
	Shrub Prod.	7.62
	Total	526.88

```
PRECIPITATION DATA
 RAIN GUAGE NO.  76   COCHRA EXCL          JULY   25/73
OCT. 15 TO APR. 15 =  3.63
APR. 15 TO JULY 1  =  2.32
JULY 1 TO SEPT. 1  =  3.22
SEPT. 1 TO OCT. 15 =  2.23
SEASON TOTAL       = 11.40
LONG TERM AVERAGE  = 10.14
```

**No utilization

```
        1901   CUMBER EXCL   NO.1   AUG    13/73  INSIDE NATIVE

                            NUMBER PLOTS = 20
                              PLOT SIZE 1X1
PLANT   PLANT   TOTAL  AVE.    PERCENT   ABS.     TOTAL   AVE.    WGT./  LBS
CODE    NAME    TRANS  PER-    COMPO-    PLOT     WGT.    WGT.    UNIT   PER
                BASAL  CENT    SITION    FREQ.    GMS/20  /PLOT   BASAL  AC.
                AREA   BASAL             BASE     SQ.FT.  OCCUR-  AREA
                PER-   AREA              20               RENCES
                CENT

  6    *ARTR    59.00 2.95                 2
  6    *CHVI    59.00 2.95                 4
  6    *PHHO     1.00 5.00E-02             1
  6    *SAVE   201.00 10.0                 8
  1     ATNU    78.00 3.90       41.8      4       18.80   4.70   0.24   90.272
   PER GRASS    92.00  4.60               16       35.31   2.21   0.38  169.55
  3     AGSM    39.50 1.97       21.2     16       20.90   1.31   0.53  100.36
  3     POSE    23.50 1.17       12.6      8        6.61   0.83   0.28   31.739
  3     SIHY    29.00 1.45       15.5      9        7.80   0.87   0.27   37.453
   PER FORBS    16.70  0.83               13        3.21   0.25   0.19   15.41
  2     PHLO    16.70 .835        8.94    13
     TOTAL            25.33     100.00             57.320                275.23

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE
```

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	187.55
CHVI	26.27
PHHO	8.45
SAVE	48.24
TESP	1.84
Shrub Prod.	272.35
Total	547.58

```
PRECIPITATION DATA
 RAIN GUAGE NO.  31  CUMBER EXCL   NO.1   AUG    13/73
OCT. 15 TO APR. 15 =  DR
APR. 15 TO JULY 1  =  6.42
JULY 1 TO SEPT. 1  =  3.95
SEPT. 1 TO OCT. 15 =  1.78
SEASON TOTAL       = 12.15
LONG TERM AVERAGE  =  8.28
```

**No utilization

```
        1901   CUMBER EXCL   NO.1   AUG    13/73  OUT    NATIVE

                            NUMBER PLOTS = 20
                              PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.    TOTAL   AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT    WGT.    WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.   GMS/20  /PLOT   BASAL  AC.
               AREA   BASAL           BASE    SQ.FT.  OCCUR-  AREA
               PER-   AREA            20              RENCES
               CENT

 6    *ARTR   243.00 12.1               6
 6    *CHVI    73.00 3.65               7
 6    *PHHC     0.50 2.50E-02           1
 6    *SAVE    15.00 .750               3
 1     ATNU    39.00 1.95     33.0      3       7.17    2.39   0.18   34.428
  PER GRASS    71.50  3.57             17      21.30    1.25   0.30  102.28
 3     AGSM    52.50 2.63     44.4     17      17.06    1.00   0.32   81.917
 3     POSE    17.50 .875     14.8      7       3.90    0.56   0.22   18.727
 3     SIHY     1.50 7.50E-02 1.27      2       0.34    0.17   0.23   1.6326
  PER FORBS     7.70  0.38             10       0.93    0.09   0.12    4.47
 2     PHLO     7.70 .385      6.51    10
    TOTAL            22.48   100.00            29.400                 141.17

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE
```

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	77.36
CHVI	45.43
EULA	1.22
PHHO	3.46
SAVE	23.46
TESP	4.37
Shrub Prod.	155.30
Total	296.47

PRECIPITATION DATA

```
 RAIN GUAGE NO.   31 CUMBER EXCL   NO.1   AUG    13/73
OCT. 15 TO APR. 15 =  DR
APR. 15 TO JULY 1  =  6.42
JULY 1 TO SEPT. 1  =  3.95
SEPT. 1 TO OCT. 15 =  1.78
SEASON TOTAL       = 12.15
LONG TERM AVERAGE  =  8.28
```

**No utilization

1901 CUMBER EXCL NO.1 AUG 13/73 INSIDE SPRAY

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*CHIV	131.00	6.55		5				
6	*PHHO	3.00	.150		1				
PER GRASS		133.70	6.68		20	95.23	4.76	0.71	457.27
3	AGSM	89.20	4.46	54.7	20	82.64	4.13	0.93	396.81
3	POSE	36.50	1.82	22.4	12	9.20	0.77	0.25	44.176
3	SIHY	8.00	.400	4.90	2	3.39	1.69	0.42	16.278
PER FORBS		29.50	1.47		12	7.97	0.66	0.27	38.27
2	PHLC	29.50	1.47	18.1	12				
TOTAL			14.86	100.00		103.20			495.53

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	4.69
CHVI	24.97
PHHO	0.46
Shrub Prod.	30.12
Total	525.65

PRECIPITATION DATA
RAIN GUAGE NO. 31 CUMBER EXCL NO.1 AUG 13/73
OCT. 15 TO APR. 15 = DR
APR. 15 TO JULY 1 = 6.42
JULY 1 TO SEPT. 1 = 3.95
SEPT. 1 TO OCT. 15 = 1.78
SEASON TOTAL = 12.15
LONG TERM AVERAGE = 8.28

**No utilization

1901 CUMBER EXCL NO.1 AUG 13/73 CUT SPRAY

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*CHIV	11.00	.550		2				
1	ATNU	49.50	2.47	20.9	3	21.75	7.25	0.44	104.44
	PER GRASS	159.00	7.95		16	36.07	2.25	0.23	173.20
3	AGSM	115.00	5.75	48.6	16	31.16	1.95	0.27	149.62
3	CRHY	1.00	5.00E-02	.423	1	0.25	0.25	0.25	1.2004
3	POSE	38.00	1.90	16.1	10	3.44	0.34	0.09	16.518
3	SIHY	5.00	.250	2.11	2	1.22	0.61	0.24	5.8581
	PER FORBS	9.40	0.47		10	1.60	0.16	0.17	7.68
2	PHLO	9.40	.470	3.97	10				
	ANN FORBS	18.70	0.93		13	7.70	0.59	0.41	36.97
4	ATAR	9.00	.450	3.80	3				
4	LARE	2.70	.135	1.14	10				
4	LEPE	0.10	T	4.23E-02	1				
4	MONU	5.30	.265	2.24	13				
4	POAV	0.10	T	4.23E-02	1				
4	SIAL	1.50	7.50E-02	.634	2				
	TOTAL		12.38	100.00		67.120			322.29

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	11.72
CHVI	17.87
SAVE	24.12
Shrub Prod.	53.71
Total	376.00

PRECIPITATION DATA
RAIN GUAGE NO. 31 CUMBER EXCL NO.1 AUG 13/73
OCT. 15 TO APR. 15 = DR
APR. 15 TO JULY 1 = 6.42
JULY 1 TO SEPT. 1 = 3.95
SEPT. 1 TO OCT. 15 = 1.78
SEASON TOTAL = 12.15
LONG TERM AVERAGE = 8.28

**No utilization

1201 CUMBER EXCL NO.2 AUG 14/73 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*AMAL	25.00	1.25		1				
6	*ARAR	223.00	11.1		16				
6	*CHVI	187.00	9.35		13				
6	*ERMI	41.00	2.05		4				
6	*TECA	8.00	.400		1				
PER GRASS		70.50	3.52		18	45.74	2.54	0.65	219.63
3	AGSM	38.50	1.92	23.2	18	29.85	1.66	0.78	143.33
3	POAM	6.00	.300	3.61	2	3.09	1.54	0.51	14.837
3	POFE	26.00	1.30	15.6	7	12.80	1.83	0.49	61.462
PER FORBS		95.80	4.79		5	13.91	2.78	0.15	66.79
2	AST	14.50	.725	8.72	3				
2	CAST	1.50	7.50E-02	.902	2				
2	COPA	7.00	.350	4.21	3				
2	EROV	7.10	.355	4.27	5				
2	LEPU	7.00	.350	4.21	2				
2	LILE	2.10	.105	1.26	2				
2	MER	8.50	.425	5.11	4				
2	PEN	1.00	5.00E-02	.601	1				
2	PHLO	1.10	5.50E-02	.661	3				
2	PHMU	42.00	2.10	25.3	4				
2	IRI	1.00	5.00E-02	.601	5				
2	UNK	3.00	.150	1.80	2				
	TOTAL		32.51	100.00		59.650			286.42

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	115.98
CHVI	35.07
LEPU	3.12
PHMU	11.74
TECA	2.24
Shrub Prod.	168.15
Total	454.57

PRECIPITATION DATA
RAIN GUAGE NO. 32 CUMBER EXCL NO.2 AUG 14/73
OCT. 15 TO APR. 15 = 5.46
APR. 15 TO JULY 1 = 0.97
JULY 1 TO SEPT. 1 = 4.50
SEPT. 1 TO OCT. 15 = 2.10
SEASON TOTAL = 13.03
LONG TERM AVERAGE = 9.80

**no utilization

1201 CUMBER EXCL NO.2 AUG 14/73 CUT NATIVE

NUMBER PLOTS = 20
PLCT SIZE 1X1

PLANT CCDE	PLANT NAME	TCTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT CCMPC- SITICN	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARAR	372.00	18.6		13				
6	*CHVI	10.CO	.500		4				
6	*ERMI	38.00	1.90		9				
PER GRASS		58.40	2.92		19	24.23	1.28	0.41	116.35
3	AGSM	16.90	.845	23.6	19	13.00	0.68	0.77	62.422
3	KOCR	2.00	.100	2.79	1	1.87	1.87	0.93	8.9792
3	POAM	1.00	5.00E-02	1.39	1	0.58	0.58	0.58	2.7850
3	POFE	26.50	1.32	37.0	10	6.48	0.65	0.24	31.115
3	POSE	12.00	.600	16.7	8	2.30	0.29	0.19	11.044
PER FORBS		13.30	0.66		13	6.66	0.51	0.50	31.98
2	ASMI	1.50	7.50E-02	2.09	2				
2	AST	3.00	.150	4.18	1				
2	CAST	1.00	5.00E-02	1.39	1				
2	COPA	1.00	5.00E-02	1.39	1				
2	ERPU	1.50	7.50E-02	2.09	2				
2	LILE	0.50	2.50E-02	.697	1				
2	MER	1.50	7.50E-02	2.09	3				
2	PHLO	0.40	2.00E-02	.558	3				
2	TRI	2.90	.145	4.04	13				
TCTAL			24.58	100.00		30.890			148.32

* NCT CCMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	91.86
CHVI	26.03
ERMI	2.16
LEPU	2.74
PHMU	1.52
TECA	3.13
Shrub Prod.	127.44
Total	275.76

PRECIPITATION DATA
RAIN GUAGE NC. 32 CUMBER EXCL NO.2 AUG 14/73
CCT. 15 TC APR. 15 = 5.46
APR. 15 TC JULY 1 = 0.97
JULY 1 TC SEPT. 1 = 4.50
SEPT. 1 TO OCT. 15 = 2.10
SEASON TOTAL = 13.03
LCNG TERM AVERAGE = 9.80

**Production adjusted for utilization

utilization	1.87
Production Adjusted	277.63

```
      12C1   CUMBER EXCL   NO.2   AUG    14/73  INSIDE SPRAY

                             NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.    TOTAL  AVE.    WGT./   LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT    WGT.   WGT.    UNIT    PER
               BASAL  CENT   SITION   FREQ.   GMS/20 /PLOT   BASAL   AC.
               AREA   BASAL           BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA            20             RENCES
               CENT

  6   *CHVI     4.00 .200                2
  6   *ERMI     1.00 5.00E-02            1
   PER GRASS  159.00  7.95              20    123.17    6.16   0.77 591.42
  3   AGSM    111.00 5.55       58.5    20     97.13    4.86   0.88  466.39
  3   POAM     12.00 .600       6.32     1      6.86    6.86   0.57  32.940
  3   POSE     36.00 1.80       19.0    11     19.18    1.74   0.53  92.096
   PER FORBS   30.90  1.54               7     18.34    2.62   0.59  88.06
  2   LILE     27.70 1.38       14.6     7
  2   PHLO      2.10 .105       1.11     4
  2   TRI       1.10 5.50E-02 .579       7
     TOTAL           9.74    100.00           141.51                 679.49

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

      ARTR                                                              1.39
      CHVI                                                              7.01
      LEPU                                                               .55
      TECA                                                              2.84
                                                     Shrub Prod.       11.79
                                                           Total      691.28
PRECIPITATION DATA
 RAIN GUAGE NO.  32  CUMBER EXCL   NO.2   AUG    14/73
OCT. 15 TO APR. 15 =  5.46
APR. 15 TO JULY 1  =  0.97
JULY 1 TO SEPT. 1  =  4.50
SEPT. 1 TO OCT. 15 =  2.10
SEASON TOTAL       = 13.03
LONG TERM AVERAGE  =  9.80
```

**No utilization

```
          1201    CUMBER EXCL    NO.2    AUG     14/73   OUT     SPRAY

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT   PLANT    TOTAL   AVE.    PERCENT   ABS.     TOTAL   AVE.    WGT./   LBS
CODE    NAME     TRANS   PER-    COMPO-    PLOT     WGT.    WGT.    UNIT    PER
                 BASAL   CENT    SITION    FREQ.    GMS/20  /PLOT   BASAL   AC.
                 AREA    BASAL             BASE     SQ.FT.  OCCUR-  AREA
                 PER-    AREA              20               RENCES
                 CENT

 6    *CHVI     11.00 .550                   3
 6    *ERMI      1.20 6.00E-02               3
  PER GRASS    107.20  5.36                 20      48.39    2.42   0.45 232.35
 3     AGSM     53.00 2.65        36.3      20      34.39    1.72   0.65  165.13
 3     POAM      0.50 2.50E-02  .342         1       0.28    0.28   0.56  1.3445
 3     POFE      5.00 .250        3.42       1       1.07    1.07   0.21  5.1378
 3     POSE     48.70 2.43        33.3      18      12.65    0.70   0.26  60.741
  PER FORBS     38.60  1.93                 13       6.92    0.53   0.18  33.23
 2     ASMI      2.00 .100        1.37       2
 2     EROV      6.00 .300        4.11       2
 2     LILE     20.20 1.01        13.8       7
 2     PHLO      6.30 .315        4.31      10
 2     TRI       4.10 .205        2.81      13
  ANN FORBS      0.30  0.01                  1       0.18    0.18   0.60    0.86
 4     CHFR      0.30 1.50E-02 .205          1
   TOTAL              7.91      100.00              55.490                266.45

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

      ARTR                                                                  1.39
      CHVI                                                                  8.09
      ERMI                                                                  1.22
      PHMU                                                                   .55
      TECA                                                                   .67
PRECIPITATION DATA                                             Shrub Prod.  11.92
 RAIN GUAGE NO.   32  CUMBER EXCL    NO.2    AUG     14/73        Total    278.37
OCT. 15 TO APR. 15 =    5.46
APR. 15 TO JULY 1  =    0.97
JULY 1 TO SEPT. 1  =    4.50
SEPT. 1 TO OCT. 15 =    2.10
SEASON TOTAL       =   13.03
LONG TERM AVERAGE  =    9.80
```

**Production adjusted for utilization

utilization 17.68

Production Adjusted 296.05

1202 CUMBER EXCL NO.3 AUG 14/73 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PERCENT	AVE. PERCENT BASAL AREA	PERCENT COMPOSITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCURRENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	391.00	19.5		12				
6	*CHVI	31.00	1.55		7				
6	*ERMI	16.50	.825		6				
6	*PHHO	14.00	.700		5				
6	*TECA	15.00	.750		2				
	PER GRASS	50.70	2.53		16	28.67	1.79	0.57	137.66
3	AGSM	13.70	.685	22.1	16	14.44	0.90	1.05	69.336
3	AGSP	3.00	.150	4.83	1	2.88	2.88	0.96	13.829
3	POFE	31.00	1.55	49.9	8	10.43	1.30	0.34	50.082
3	POSE	2.50	.125	4.03	4	0.70	0.17	0.28	3.3612
3	SIHY	0.50	2.50E-02	.805	1	0.22	0.22	0.44	1.0564
	PER FORBS	11.40	0.57		15	3.40	0.23	0.30	16.33
2	ASMI	3.00	.150	4.83	2				
2	CRE	2.00	.100	3.22	1				
2	PHLO	4.40	.220	7.09	15				
2	TRI	2.00	.100	3.22	12				
	TOTAL		26.48	100.00		32.070			153.99

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	215.36
CHVI	13.86
ERMI	3.01
PHHO	14.59
TECA	.32
Shrub Prod.	247.14
Total	401.13

PRECIPITATION DATA
RAIN GUAGE NO. 33 CUMBER EXCL NO.3 AUG 14/73
OCT. 15 TO APR. 15 = RI
APR. 15 TO JULY 1 = 2.53
JULY 1 TO SEPT. 1 = 3.35
SEPT. 1 TO OCT. 15 = 1.45
SEASON TOTAL = 7.33
LONG TERM AVERAGE = 11.16

**No utilization

1202 CUMBER EXCL NO.3 AUG 14/73 CUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	483.00	24.1		16				
6	*CHVI	14.50	.725		7				
6	*ERMI	26.00	1.30		2				
6	*PHHO	25.00	1.25		3				
PER GRASS		18.30	0.91		14	14.24	1.02	0.78	68.38
3	AGSM	9.30	.465	35.4	14	10.34	0.74	1.11	49.650
3	AGSP	3.00	.150	11.4	3	1.56	0.52	0.52	7.4906
3	POFE	1.50	7.50E-02	5.70	2	0.59	0.29	0.39	2.8330
3	POSE	4.50	.225	17.1	10	1.75	0.17	0.39	8.4030
PER FORBS		8.00	0.40		15	0.00	0.00	0.00	0.00
2	ASMI	0.50	2.50E-02	1.90	1				
2	PHLO	5.00	.250	19.0	15				
2	TRI	2.50	.125	9.51	9				
TOTAL			28.74	100.00		14.240			68.376

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	203.37
AMAL	.07
CHVI	15.84
ERMI	2.61
PHHO	5.93
Shrub Prod.	227.820
Total	296.196

PRECIPITATION DATA
RAIN GUAGE NO. 33 CUMBER EXCL NO.3 AUG 14/73
OCT. 15 TO APR. 15 = RI
APR. 15 TO JULY 1 = 2.53
JULY 1 TO SEPT. 1 = 3.35
SEPT. 1 TO OCT. 15 = 1.45
SEASON TOTAL = 7.33
LONG TERM AVERAGE = 11.16

**No utilization

```
         1202   CUMBER EXCL   NO.3   AUG    14/73  INSIDE SPRAY

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.   WGT.    UNIT   PER
               BASAL  CENT    SITION   FREQ.   GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL            BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA             20             RENCES
               CENT

 6   *AMAL     20.00 1.00                1
 6   *CHVI     49.00 2.45                3
 6   *ERMI     13.00 .650                1
 6   *PHHO      4.00 .200                2
 6   *TECA      5.00 .250                1
  PER GRASS   109.60  5.48              19     78.31   4.12   0.71 376.02
 3   AGSM      86.10 4.30      77.6     19     63.82   3.36   0.74  306.44
 3   AGSP      15.00 .750      13.5      6     10.44   1.74   0.70  50.130
 3   POFE       8.00 .400      7.21      3      3.98   1.33   0.50  19.111
 3   POSE       0.50 2.50E-02 .450       1      0.07   0.07   0.14  .33612
  PER FORBS     1.40  0.07               3      0.52   0.17   0.37    2.50
 2   PHLO       0.70 3.50E-02 .631       3
 2   TRI        0.70 3.50E-02 .631       3
   TOTAL            10.10    100.00            78.830               378.52

     * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

AMAL	3.55
ARTR	41.47
CHVI	16.34
ERMI	.40
PHHO	.98
TECA	.97
Shrub Prod.	63.71
Total	442.23

```
PRECIPITATION DATA
 RAIN GUAGE NO.  33   CUMBER EXCL   NO.3   AUG    14/73
OCT. 15 TO APR. 15 =   RI
APR. 15 TO JULY 1  =  2.53
JULY 1 TO SEPT. 1  =  3.35
SEPT. 1 TO OCT. 15 =  1.45
SEASON TOTAL       =  7.33
LONG TERM AVERAGE  = 11.16
```

**No utilization

```
          1202   CUMBER EXCL    NO.3   AUG     14/73  CUT     SPRAY

                             NUMBER PLOTS = 20
                               PLOT SIZE 1X1
PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.    TOTAL  AVE.    WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT    WGT.   WGT.    UNIT   PER
              BASAL  CENT   SITION   FREQ.   GMS/20 /PLOT   BASAL  AC.
              AREA   BASAL           BASE    SQ.FT. OCCUR-  AREA
              PER-   AREA            20             RENCES
              CENT

  6    *ARTR    6.00 .300             2
  6    *CHVI    0.70 3.50E-02         2
  6    *ERMI    4.00 .200             1
  6    *PHHC   11.00 .550             2
  6    *TECA   33.00 1.65             2
   PER GRASS   98.10  4.90           20     54.03     2.70   0.55 259.44
  3    AGSM    76.50 3.82       71.1 20     46.36     2.32   0.61  222.61
  3    AGSP     7.50 .375       6.97  3      4.23     1.41   0.56  20.311
  3    POFE     9.50 .475       8.83  5      2.42     0.48   0.25  11.620
  3    POSE     4.60 .230       4.28  5      1.02     0.20   0.22  4.8977
   PER FORBS    9.50  0.47           11      1.53     0.14   0.16    7.35
  2    ASDI     1.00 5.00E-02 .929    1
  2    ASGI     5.00 .250       4.65  2
  2    PHLO     2.30 .115       2.14 11
  2    TRI      1.20 6.00E-02 1.12    8
     TOTAL           8.11     100.00        55.560                 266.78

     * NOT COMPUTED IN PERCENT COMPOSITION
     T - TRACE
```

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	10.99
CHVI	8.78
ERMI	2.50
PHHO	7.18
TECA	.68
Shrub Prod.	30.13
Total	296.91

```
PRECIPITATION DATA
 RAIN GUAGE NO.   33 CUMBER EXCL   NO.3   AUG    14/73
OCT. 15 TO APR. 15 =  RI
APR. 15 TO JULY 1  =  2.53
JULY 1 TO SEPT. 1  =  3.35
SEPT. 1 TO OCT. 15 =  1.45
SEASON TOTAL       =  7.35
LONG TERM AVERAGE  = 11.16
```

**No utilization

1902 CUMBER EXCL NO.4 AUG 13/73 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PERCENT	AVE. PERCENT BASAL AREA	PERCENT COMPOSITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCURRENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	ARSP	20.00	1.00	17.9	5	1.54	0.31	0.08	7.3946
6	ATNU	170.50	8.52		14				
PER GRASS		92.00	4.60		13	31.76	2.44	0.35	152.50
3	SIHY	92.00	4.60	82.1	13	31.76	2.44	0.35	152.50
	TOTAL		14.12	100.00		33.300			159.90

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

PHHO	1.95
TESP	2.79
Shrub Prod.	4.74
Total	164.64

PRECIPITATION DATA
RAIN GUAGE NO. 34 CUMBER EXCL NO.4 AUG 13/73
OCT. 15 TO APR. 15 = DR
APR. 15 TO JULY 1 = 5.95
JULY 1 TO SEPT. 1 = 2.45
SEPT. 1 TO OCT. 15 = 2.25
SEASON TOTAL = 10.65
LONG TERM AVERAGE = 8.28

**No utilization

1902 CUMBER EXCL NO.4 AUG 13/73 CUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	ARSP	59.00	2.95	13.5	5	5.71	1.14	0.10	27.418
1	ATNU	353.50	17.7	80.8	13	99.32	7.64	0.28	476.90
PER GRASS		24.40	1.22		14	7.04	0.50	0.29	33.80
3	SIHY	24.40	1.22	5.58	14	7.04	0.50	0.29	33.804
ANN FORBS		0.40	0.02		3	0.03	0.01	0.07	0.14
4	COLI	0.40	2.00E-02	9.15E-02	3				
TOTAL			21.86	100.00		112.10			538.27

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

CHVI	2.28
PHHO	10.26
TESP	2.22
Shrub Prod.	14.76
Total	553.03

PRECIPITATION DATA
RAIN GUAGE NO. 34 CUMBER EXCL NO.4 AUG 13/73
OCT. 15 TO APR. 15 = DR
APR. 15 TO JULY 1 = 5.95
JULY 1 TO SEPT. 1 = 2.45
SEPT. 1 TO OCT. 15 = 2.25
SEASON TOTAL = 10.65
LONG TERM AVERAGE = 8.28

**No utilization

```
          2004   DEMER  EXCL          JULY   24/73  INSIDE NATIVE

                           NUMBER PLOTS = 20
                              PLOT SIZE 1X1
PLANT   PLANT   TOTAL   AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
                BASAL   CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL            BASE    SQ.FT.  OCCUR-  AREA
                PER-    AREA             20              RENCES
                CENT

  6    *ARTR    24.00 1.20                  5
  6    *OPPC     2.00 .100                  2
   PER GRASS  105.80  5.29                 16     25.64    1.60   0.24 123.12
  3     AGSM     9.30 .465        7.86     10      5.04    0.50   0.54  24.201
  3     BOGR    79.80 3.99       67.5      16     12.57    0.79   0.16  60.357
  3     POSE    16.70 .835       14.1      11      8.03    0.73   0.48  38.558
   ANN GRASS     9.50  0.47                16     10.13    0.63   1.07  48.64
  5     BRTE     6.50 .325        5.49     10
  5     FEOC     3.00 .150        2.54     16
   ANN FORBS     3.00  0.15                14      2.60    0.19   0.87  12.48
  4     CEPI     0.90 4.50E-02 .761         8
  4     LARE     0.20 1.00E-02 .169         2
  4     PLSP     1.90 9.50E-02 1.61        14
     TOTAL            7.21     100.00             38.370                184.24

        * NCT COMPUTED IN PERCENT CCMPOSITION
        T - TRACE

PRODUCTION ESTIMATES CF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR		155.06
OPPO		19.48
	Shrub Prod.	174.54
	Total	358.78

```
PRECIPITATION DATA
 RAIN GUAGE NC.  8   DEMER  EXCL          JULY   24/73
OCT. 15 TC APR. 15 =  2.04
APR. 15 TO JULY 1  =  1.33
JULY 1 TO SEPT. 1  =  2.00
SEPT. 1 TC OCT. 15 =  1.82
SEASON TOTAL       =  7.19
LCNG TERM AVERAGE  =  8.09
```

**No utilization

```
        2004   DEMER  EXCL           JULY   24/73  OUT    NATIVE

                          NUMBER PLOTS = 20
                             PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.    TOTAL  AVE.   WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT    WGT.   WGT.   UNIT   PER
               BASAL  CENT   SITION   FREQ.   GMS/20 /PLOT  BASAL  AC.
               AREA   BASAL           BASE    SQ.FT. OCCUR- AREA
               PER-   AREA            20             RENCES
               CENT

 6    *ARTR   343.00 17.1               16
 6    *OPPO     8.00 .400                1
 6    *PHHC     2.00 .100                1
  PER GRASS    32.90  1.64              10       9.16   0.92  0.28  43.98
 3    AGSM      7.20 .360      15.1     10       4.17   0.42  0.58  20.023
 3    BOGR     16.00 .800      33.6      4       2.43   0.61  0.15  11.668
 3    POSE      7.70 .385      16.2      9       2.25   0.25  0.29  10.804
 3    SIHY      2.00 .100      4.20      1       0.31   0.31  0.15  1.4885
  ANN GRASS    13.10  0.65              16      13.19   0.82  1.01  63.33
 5    BRTE     12.00 .600      25.2     16
 5    FEOC      1.10 5.50E-02 2.31      11
  ANN FORBS     1.60  0.08               6       0.81   0.13  0.51   3.89
 4    CEPI      0.60 3.00E-02 1.26       6
 4    PLSP      0.40 2.00E-02 .840       4
 4    SAKA      0.60 3.00E-02 1.26       6
   TOTAL             20.03    100.00            23.160              111.21

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR		110.48
OPPO		22.37
	Shrub Prod.	132.85
	Total	244.06

```
PRECIPITATION DATA
 RAIN GUAGE NO. 8   DEMER  EXCL           JULY   24/73
OCT. 15 TO APR. 15 =  2.04
APR. 15 TO JULY 1  =  1.33
JULY 1 TO SEPT. 1  =  2.00
SEPT. 1 TO OCT. 15 =  1.82
SEASON TOTAL       =  7.19
LONG TERM AVERAGE  =  8.09
```

	utilization	0.40
**Production adjusted for utilization	Production Adjusted	244.46

```
12 01   APR 22  RUNJEAA...
          2005   DUTCH  NICK   EXCL   JULY   18/73  INSIDE NATIVE

                                   NUMBER PLOTS = 20
                                      PLOT SIZE 1X1
PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT   WGT.   WGT.   UNIT   PER
              BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT  BASAL  AC.
              AREA   BASAL           BASE   SQ.FT. OCCUR- AREA
              PER-   AREA            20            RENCES
              CENT

  6   *CPPC    35.50 1.77              8
   PER GRASS  250.00 12.50            20     57.04    2.85  0.23 273.89
  3    BOGR   244.00 12.2      97.1   20     53.81    2.69  0.22  258.38
  3    POSE     6.00 .300      2.39    3      3.23    1.08  0.54  15.509
   ANN FORBS    1.30  0.06             4      1.05    0.26  0.81    5.04
  4    CHEN     0.40 2.00E-02 .159     4
  4    CRCR     0.10 T         3.98E-02 1
  4    LEDE     0.10 T         3.98E-02 1
  4    PLSP     0.70 3.50E-02 .279     3
     TOTAL          14.34    100.00          58.090                278.93

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
      EULA                                                          89.020
      OPPO                                                            .024
                                                      Shrub Prod.   89.944
                                                          Total3.68.874
```

```
PRECIPITATION DATA
 RAIN GUAGE NO. 4     DUTCH  NICK   EXCL   JULY   18/73
OCT. 15 TO APR. 15 = 1.53
APR. 15 TO JULY 1  = 1.45
JULY 1 TO SEPT. 1  = 2.26
SEPT. 1 TO OCT. 15 = 1.22
SEASON TOTAL       = 6.46
LONG TERM AVERAGE  = 6.96
```

** no utilization

```
          2005    DUTCH  NICK    EXCL     JULY    18/73  CUT     NATIVE

                               NUMBER PLOTS = 20
                                 PLOT SIZE 1X1
PLANT   PLANT   TOTAL   AVE.    PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-    PLOT    WGT.    WGT.    UNIT    PER
                BASAL   CENT    SITION    FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL             BASE    SQ.FT.  OCCUR-  AREA
                PER-    AREA              20              RENCES
                CENT

  6   *OPPC     41.00 2.05                 9
   PER GRASS   329.00 16.45               19      59.61    3.14   0.18  286.23
  3    BOGR    319.00 15.9       94.9     19      56.39    2.97   0.18   270.77
  3    POSE     10.00 .500       2.97      4       3.22    0.80   0.32   15.461
   ANN FORBS     7.30  0.36               11       5.82    0.53   0.80   27.95
  4    CHEN      0.10 T           2.97E-02 1
  4    CRCR      0.20 1.00E-02 5.95E-02    2
  4    LARE      0.10 T           2.97E-02 1
  4    LEDE      4.30 .215        1.28     4
  4    PLSP      2.60 .130        .773    11
     TOTAL           18.86     100.00             65.430                  314.17

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
       OPPO                                                               86.99
                                                       Shrub Prod.        86.99

                                                             Total       401.16


PRECIPITATION DATA
 RAIN GUAGE NO. 4      DUTCH  NICK    EXCL    JULY    18/73
OCT. 15 TO APR. 15 = 1.53
APR. 15 TO JULY 1  = 1.45
JULY 1 TO SEPT. 1  = 2.26
SEPT. 1 TO OCT. 15 = 1.22
SEASON TOTAL       = 6.46
LONG TERM AVERAGE  = 6.66
```

**no utilization

```
          0404   FARSON EXCL          AUG    15/73  INSIDE NATIVE

                             NUMBER PLOTS = 20
                               PLOT SIZE 1X1
PLANT   PLANT    TOTAL   AVE.     PERCENT   ABS.    TOTAL   AVE.     WGT./   LBS
CODE    NAME     TRANS   PER-     COMPO-    PLOT    WGT.    WGT.     UNIT    PER
                 BASAL   CENT     SITION    FREQ.   GMS/20  /PLOT    BASAL   AC.
                 AREA    BASAL              BASE    SQ.FT.  OCCUR-   AREA
                 PER-    AREA               20              RENCES
                 CENT

  6    *ARTR    388.00 19.4                  12
  6    *CHVI     11.00 .550                   6
  6    *PHHC     48.00 2.40                   6
    PER GRASS    31.80  1.59                 20      22.33    1.12   0.70 107.22
  3     AGSM     19.50 .975         61.3     20      16.17    0.81   0.83  77.643
  3     CAEL      1.30 6.50E-02 4.09          6       0.59    0.10   0.45  2.8330
  3     CRHY      1.00 5.00E-02 3.14          1       0.18    0.18   0.18  .86430
  3     POSE      2.00 .100       6.29        1       1.09    1.09   0.54  5.2338
  3     SIHY      1.00 5.00E-02 3.14          1       0.57    0.57   0.57  2.7370
  3     STCC      7.00 .350      22.0         3       3.73    1.24   0.53  17.910
      TOTAL             23.94    100.00              22.330                107.22

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
        ARHO                                                                  .88
        ARTR                                                               152.45
        ARCO                                                                11.98
        CHVI                                                                 2.39
        EULA                                                                 1.91
        OPPO                                                                 1.96
        PHHO                                                                39.73
                                                             Shrub Prod.   211.30
PRECIPITATION DATA
 RAIN GUAGE NO. 2       FARSON EXCL          AUG    15/73         Total    318.52
OCT. 15 TO APR. 15 = DR
APR. 15 TO JULY 1  = 6.24
JULY 1 TO SEPT. 1  = 1.96
SEPT. 1 TO OCT. 15 = 1.29
SEASON TOTAL       = 6.49
LONG TERM AVERAGE  = 6.67

**no utilization
```

```
        0404   FARSON EXCL              AUG     15/73  CUT     NATIVE

                                NUMBER PLOTS = 20
                                  PLOT SIZE 1X1
PLANT   PLANT   TOTAL   AVE.    PERCENT  ABS.     TOTAL   AVE.     WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-   PLOT     WGT.    WGT.     UNIT    PER
                BASAL   CENT    SITION   FREQ.    GMS/20  /PLOT    BASAL   AC.
                AREA    BASAL            BASE     SQ.FT.  OCCUR-   AREA
                PER-    AREA             20               RENCES
                CENT

  6    *ARTR    221.00 11.0               15
  6    *ATCO     15.00 .750                1
  6    *CHVI     80.50 4.02               12
  6    *PHHO     11.00 .550                5
  6    *TECA      7.00 .350                1
   PER GRASS     25.00  1.25              18      15.78    0.88   0.63   75.77
  3     AGSM     12.80 .640       40.9    18      10.16    0.56   0.79   48.785
  3     CAEL      0.20 T          .639     1       0.02    0.02   0.10   9.6034E-02
  3     ORHY      5.20 .260       16.6     3       2.71    0.90   0.52   13.013
  3     POSE      2.00 .100       6.39     1       0.27    0.27   0.13   1.2965
  3     SIHY      3.00 .150       9.58     4       1.65    0.41   0.55   7.9228
  3     STCO      1.80 9.00E-02 5.75       4       0.97    0.24   0.54   4.6576
   PER FORBS      6.00  0.30               1       0.63    0.63   0.10    3.03
  2     AST       1.00 5.00E-02 3.19       1
  2     EROV      3.00 .150       9.58     1
  2     SPCO      2.00 .100       6.39     1
   ANN FORBS      0.30  0.01               2       0.02    0.01   0.07    0.10
  4     CHEN      0.20 1.00E-02 .639       2
  4     ERAN      0.10 T          .319     1
     TOTAL             18.29    100.00            16.430                 78.892

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARHO	9.42
ARTR	76.18
CHVI	16.76
EULA	.48
PHHO	28.90
Shrub Prod.	131.740
Total	210.632

```
PRECIPITATION DATA
 RAIN GUAGE NO.  2    FARSON EXCL          AUG     15/73
OCT. 15 TO APR. 15 =  DR
APR. 15 TO JULY 1  = 6.24
JULY 1 TO SEPT. 1  = 1.96
SEPT. 1 TO OCT. 15 = 1.29
SEASON TOTAL       = 9.49
```

Long Term Average = 6.67

**no utilization

```
11 06    APR 23  RUNRVAA...
             1007   GRANIT MOUNT  EXCL    AUG     16/73  INSIDE NATIVE

                                  NUMBER PLOTS = 20
                                    PLCT SIZE 1X1
PLANT  PLANT  TCTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CCDE   NAME   TRANS  PER-   COMPC-   PLOT   WGT.   WGT.   UNIT   PER
              BASAL  CENT   SITICN   FREQ.  GMS/20 /PLOT  BASAL  AC.
              AREA   BASAL           BASE   SQ.FT. OCCUR- AREA
              PER-   AREA            20            RENCES
              CENT

  6   *ARTR   210.00 10.5               13
  6   *CHVI    26.00 1.30                3
  6   *PHHC    66.00 3.30               10
   PER GRASS  134.70  6.73              18     39.10    2.17   0.29 187.75
  3    AGSM    22.50 1.12      10.4     18     17.60    0.98   0.78  84.510
  3    POFE    89.00 4.45      41.0     16     17.53    1.10   0.20  84.174
  3    POSE    16.00 .800      7.37      9      1.28    0.14   0.08  6.1462
  3    SIHY     7.20 .360      3.32      3      2.69    0.90   0.37  12.917
   PER FORBS  82.30   4.11              11     13.26    1.21   0.16  63.67
  2    ASMI    65.00 3.25      30.0     11
  2    CAS      3.00 .150      1.38      1
  2    ERPU     4.00 .200      1.84      3
  2    PELA     9.00 .450      4.15      2
  2    TRI      1.30 6.50E-02 .599       2
     TCTAL           25.95    100.00           52.360                 251.42

      * NCT CCMPUTED IN PERCENT CCMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

      ARTR                                                            143.04
      PHHO                                                             28.58
                                                          Shrub Prod. 171.62

                                                                Total 423.04


PRECIPITATION DATA
 RAIN GUAGE NO. 6     GRANIT MOUNT  EXCL    AUG     16/73
CCT. 15 TC APR. 15 =  DR
APR. 15 TC JULY 1  =  5.66
JULY 1 TC SEPT. 1  =  1.87
SEPT. 1 TC OCT. 15 =  3.96
SEASCN TOTAL       = 11.49
LCNG TERM AVERAGE  =  9.02
```

**no utilization

```
        1007   GRANIT MOUNT  EXCL   AUG     16/73  CUT    NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.    TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT    WGT.   WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.   GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL           BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA            20             RENCES
               CENT

 6    *ARTR   319.00 15.9              13
 6    *CHVI     0.20 T                  1
 6    *PHHO    33.30 1.66               7
  PER GRASS   126.70  6.33             18      37.58    2.09   0.30 180.45
 3     AGSM    22.40 1.12      13.9    18      19.45    1.08   0.87  93.393
 3     POFE    83.00 4.15      51.4    16      15.83    0.99   0.19  76.011
 3     POSE    19.30 .965      12.0    11       1.79    0.16   0.09  8.5950
 3     SIHY     2.00 .100      1.24     1       0.51    0.51   0.25  2.4489
  PER FORBS    34.80  1.74             10       4.37    0.44   0.13  20.98
 2     ASMI    24.00 1.20      14.9     7
 2     AST      0.50 2.50E-02 .310      3
 2     ERPU     6.70 .335      4.15     8
 2     TRI      3.60 .180      2.23    10
   TOTAL            25.70    100.00            41.950                201.43

     * NOT COMPUTED IN PERCENT COMPOSITION
     T - TRACE
```

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	97.19
CHVI	.41
PHHO	57.15
Shrub Prod.	154.75
Total	356.18

```
PRECIPITATION DATA
 RAIN GUAGE NO. 6     GRANIT MOUNT  EXCL   AUG    16/73
OCT. 15 TO APR. 15 =  DR
APR. 15 TO JULY 1  =  5.66
JULY 1 TO SEPT. 1  =  1.87
SEPT. 1 TO OCT. 15 =  3.96
SEASON TOTAL       = 11.49
LONG TERM AVERAGE  =  9.02
```

**no utilization

```
         1007   GRANIT MOUNT  EXCL   AUG    16/73  INSIDE SPRAY

                             NUMBER PLOTS = 20
                               PLOT SIZE 1X1
PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT   WGT.   WGT.   UNIT   PER
              BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT  BASAL  AC.
              AREA   BASAL           BASE   SQ.FT. OCCUR- AREA
              PER-   AREA            20            RENCES
              CENT

 6   *ARTR     6.00 .300              1
 6   *CHVI    40.00 2.00              1
  PER GRASS  151.50  7.57            20   101.96   5.10  0.67 489.58
 3   AGSM     58.00 2.90      36.1   20    50.82   2.54  0.88  244.02
 3   POFE     91.00 4.55      56.6   19    50.98   2.68  0.56  244.79
 3   POSE      2.50 .125      1.55    3     0.16   0.05  0.06  .76827
  PER FORBS    9.30  0.46             5     2.24   0.45  0.24  10.76
 2   ASMI      3.00 .150      1.87    1
 2   AST       1.10 5.50E-02 .684     2
 2   ERPL      3.00 .150      1.87    2
 2   TRI       2.20 .110      1.37    5
   TOTAL          10.34     100.00        104.20               500.34

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

      ARTR                                                      27.30
      CHVI                                                        .41
      PHHO                                                       1.77
                                                     Shrub Prod. 29.48
                                                           Total 529.82

PRECIPITATION DATA
 RAIN GUAGE NO. 6    GRANIT MOUNT  EXCL   AUG    16/73
OCT. 15 TO APR. 15 =  DR
APR. 15 TO JULY 1  = 5.66
JULY 1 TO SEPT. 1  = 1.87
SEPT. 1 TO OCT. 15 = 3.96
SEASON TOTAL       =11.49
LONG TERM AVERAGE  = 9.02
**no utilization
```

```
          1007   GRANIT MOUNT  EXCL   AUG    16/73  CUT    SPRAY

                            NUMBER PLOTS = 20
                              PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CODE   NAME    TRANS  PER-   COMPC-   PLOT   WGT.   WGT.   UNIT   PER
               BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT  BASAL  AC.
               AREA   BASAL           BASE   SQ.FT. OCCUR- AREA
               PER-   AREA            20            RENCES
               CENT

 6    *ARTR    32.00 1.60              4
 6    *CHVI    91.00 4.55              3
 6    *PHHO     3.00 .150              3
  PER GRASS   134.60  6.73            20       48.85   2.44  0.36 234.56
 3    AGSM     30.60 1.53     20.5    20       27.82   1.39  0.91  133.58
 3    POFE     73.00 3.65     48.8    14       17.05   1.22  0.23  81.869
 3    POSE     31.00 1.55     20.7    18        3.98   0.22  0.13  19.111
  PER FORBS    15.00  0.75             9        1.94   0.22  0.13   9.32
 2    ASMI      3.30 .165     2.21     3
 2    ASPU      4.00 .200     2.67     1
 2    AST       1.50 7.50E-02 1.00     2
 2    ERPL      3.00 .150     2.01     2
 2    TRI       3.20 .160     2.14     9
   TOTAL            13.78   100.00             50.790                243.88

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
       ARTR                                                          49.69
       CHVI                                                           4.48
       PHHO                                                           8.66
                                                        Shrub Prod.  62.83
                                                              Total 306.71


PRECIPITATION DATA
 RAIN GUAGE NO. 6    GRANIT MOUNT  EXCL   AUG     16/73
OCT. 15 TO APR. 15 =  DR
APR. 15 TO JULY 1  =  5.66
JULY 1 TO SEPT. 1  =  1.87
SEPT. 1 TO OCT. 15 =  3.96
SEASON TOTAL       = 11.49
LONG TERM AVERAGE  =  9.02

** no utilization
```

```
10 36    MAY 02  RUN2FCA...
        0901    HALOGE PASTUR EXCL 1 JULY   11/73  INSIDE NATIVE

                          NUMBER OF PLOTS
                   COVER = 200, PRODUCTION = 20
                    PLOT SIZE 1 FT. X 10 FT.
PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.   TOTAL   AVE.    WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT   WGT.    WGT.    UNIT   PER
              BASAL  CENT   SITION   FREQ.  GMS/    /PLOT   BASAL  AC.
              AREA   BASAL           BASE   200     OCCUR-  AREA
              PER-   AREA            200    SQ.FT.  RENCES
              CENT

  6  OPPO       1.0  T                  1
  1  ATNU    2266.2  11.3       99.5  145    506.98    3.50  0.22  243.44
   PER GRASS    9.7  4.85E-02          10     4.49    0.45  0.46  2.1560
  3  POSE       6.2  3.10E-02 .272      5     2.35    0.47  0.38  1.1284
  3  SIHY       3.5  1.75E-02 .154     10     2.14    0.21  0.61  1.0276
   PER FORBS   0.60  0.00               6     0.35    0.06  0.58   0.17
  2  ALTE       0.6  T           2.63E-02 6
   ANN FORBS   1.30  0.01               3     0.01    0.00  0.01   0.00
  4  SYRI       1.2  T           5.27E-02 3
  4  EUP        0.1  T           T      1
     TOTAL          11.4     100.00         511.830                245.765

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
      OPPO                                                          2.52
                                                  Shrub Prod.      2.250
                                                        Total    248.285


PRECIPITATION DATA
 RAIN GUAGE NO. 24   HALOGE PASTUR EXCL 1 JULY   11/73
OCT. 15 TO APR. 15 =  0.72
APR. 15 TO JULY 1  =  2.00
JULY 1 TO SEPT. 1  =  1.14
SEPT. 1 TO OCT. 15 =  1.92
SEASON TOTAL       =  5.78
LONG TERM AVERAGE  =  5.45

** no utilization
```

```
09 57   MAY 02  RUNMFCA...
           0905   HALOGE PASTUR EXCL 2 JULY   11/73  INSIDE NATIVE

                             NUMBER OF PLOTS
                        COVER = 200, PRODUCTION = 20
                         PLOT SIZE 1 FT. X 10 FT.
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT   WGT.   WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.  GMS/   /PLOT   BASAL  AC.
               AREA   BASAL           BASE   200    OCCUR-  AREA
               PER-   AREA            200    SQ.FT. RENCES
               CENT

  6  *OPPO     44.0   .220                7
  1  ATNU    1463.0   7.31      91.2    158    498.24   3.15   0.34  239.24
   PER GRASS  140.6   .703               45    118.24   2.63   0.84  56.775
  3  POSE      29.2   .146      1.82     45      6.29   0.14   0.22  3.0203
  3  SIHY     111.4   .557      6.94     42    111.95   2.67   1.00  53.755
   PER FORBS   0.60   0.00                6      0.19   0.03   0.32   0.09
  2  ALTE      0.6    T      3.74E-02     6
   ANN FORBS   0.30   0.00                3      0.02   0.01   0.07   0.01
  4  EUP       0.3    T      1.87E-02     3
     TOTAL            8.2     100.00          616.690                296.116

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

       OPPO
                                                                  3.570
                                                      Shrub Prod. 3.570
                                                          Total 299.686


PRECIPITATION DATA
 RAIN GUAGE NO.  167 HALOGE PASTUR EXCL 2 JULY   11/73
OCT. 15 TO APR. 15 = 0.71
APR. 15 TO JULY 1  = 2.22
JULY 1 TO SEPT. 1  = 1.13
SEPT. 1 TO OCT. 15 = 2.00
SEASON TOTAL       = 6.06
LONG TERM AVERAGE  = 6.05
```

** no utilization

```
11 35   MAY 02  RUN1GCA...
            09C3   HALOGE PASTUR EXCL 3 JULY   11/73  INSIDE NATIVE

                          NUMBER OF PLOTS
                    COVER = 200, PRODUCTION = 20
                     PLOT SIZE 1 FT. X 10 FT.
PLANT   PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL  AVE.    WGT./  LBS
CODE    NAME    TRANS  PER-    COMPO-   PLOT    WGT.   WGT.    UNIT   PER
                BASAL  CENT    SITION   FREQ.   GMS/   /PLOT   BASAL  AC.
                AREA   BASAL            BASE    200    OCCUR-  AREA
                PER-   AREA             200     SQ.FT. RENCES
                CENT

  6  *OPPO      4.0  2.00E-02              3
  1  ATNU    2112.7  10.6        92.5    158    652.23    4.13   0.31   313.18
  1  ARSP      37.0  .185        1.62      8      5.41    0.68   0.15   2.5977
   PER GRASS  130.7  .653                 45     97.35    2.16   0.74   46.744
  3  SIHY     130.7  .653        5.72     45     97.35    2.16   0.74   46.744
   PER FORBS   2.50  0.01                 25      1.26    0.05   0.50    0.61
  2  ALTE       2.5  1.25E-02 .109        25
   ANN FORBS   2.00  0.01                 16      0.08    0.00   0.04    0.04
  4  EUP        1.9  T           8.32E-02 16
  4  SYRI       0.1  T           T         1
     TOTAL             11.4    100.00          756.330                 363.166

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

      OPPO                                                             4.420
                                                     Shrub Prod.       4.420
                                                           Total     367.586


PRECIPITATION DATA
 RAIN GUAGE NO. 168 . HALOGE PASTUR EXCL 3 JULY   11/73
OCT. 15 TO APR. 15 = 0.63
APR. 15 TO JULY 1  = 2.12
JULY 1 TO SEPT. 1  = 1.17
SEPT. 1 TO OCT. 15 = 2.05
SEASON TOTAL       = 5.97
LONG TERM AVERAGE  = 5.49
```

**no utilization

```
          0913   HORSE  CREEK  EXCL   JULY   23/73  INSIDE AGSM

                             NUMBER PLOTS = 20
                               PLOT SIZE 1X1
PLANT   PLANT   TOTAL   AVE.   PERCENT  ABS.   TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-   COMPO-   PLOT   WGT.    WGT.    UNIT    PER
                BASAL   CENT   SITION   FREQ.  GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL           BASE   SQ.FT.  OCCUR-  AREA
                PER-    AREA            20             RENCES
                CENT

  6   *ARTR     18.00 .900                 1
  6   *OPPC      9.00 .450                 1
   PER GRASS    42.90  2.14               20    65.65    3.28   1.53 315.23
  3    AGSM     36.20 1.81       60.3     20    64.94    3.25   1.79  311.82
  3    POSE      6.70 .335       11.2     10     0.71    0.07   0.11  3.4092
   ANN GRASS    17.10  0.85               18    37.90    2.11   2.22 181.98
  5    BRTE     17.10 .855       28.5     18
     TOTAL             4.35     100.00         103.55                 497.22

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR	24.24
GUSA	5.42
OPPO	6.77
PHHO	3.36
Shrub Prod.	39.79
Total	5.37.01

```
PRECIPITATION DATA
 RAIN GUAGE NO. 12    HORSE  CREEK  EXCL   JULY   23/73
OCT. 15 TO APR. 15 =  2.72
APR. 15 TO JULY 1  =  5.20
JULY 1 TO SEPT. 1  =  1.84
SEPT. 1 TO OCT. 15 =  2.66
SEASON TOTAL       = 12.42
LONG TERM AVERAGE  = 11.56
```

**no utilization

```
          0913   HORSE  CREEK  EXCL    JULY    23/73  CUT     AGSM

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT   PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS  PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
                BASAL  CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA   BASAL            BASE    SQ.FT.  OCCUR-  AREA
                PER-   AREA             20              RENCES
                CENT

 6     *ARTR    56.00 2.80                10
 6     *OPPO     4.00 .200                 1
 6     *PHHO     7.00 .350                 4
  PER GRASS     40.10  2.00               20    37.36    1.87   0.93 179.39
 3     AGSM     35.50 1.77        85.5    20    36.87    1.84   1.04  177.04
 3     POSE      4.60 .230        11.1     6     0.49    0.08   0.11  2.3528
  PER FORBS      1.00  0.05                1     0.05    0.05   0.05    0.24
 2     SPCO      1.00 5.00E-02 2.41        1
  ANN FORBS      0.40  0.02                2     0.08    0.04   0.20    0.38
 4     CHAL      0.10 T          .241      1
 4     LEDE      0.30 1.50E-02 .723        2
     TOTAL            5.42   100.00             37.490                180.02

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR	39.44
GUSA	36.72
OPPO	28.11
PHHO	6.33
Shrub Prod.	110.60
Total	290.62

```
PRECIPITATION DATA
 RAIN GUAGE NO. 12    HORSE   CREEK   EXCL    JULY    23/73
OCT. 15 TO APR. 15 =  2.72
APR. 15 TO JULY 1  =  5.20
JULY 1 TO SEPT. 1  =  1.84
SEPT. 1 TO OCT. 15 =  2.66
SEASON TOTAL       = 12.42
LONG TERM AVERAGE  = 11.56
```

**Production adjusted for utilization

utilization	35.41
Production Adjusted	326.03

```
15 14   APR 23  RUN2ZAA...
           0913   HORSE  CREEK  EXCL   JULY   23/73  INSIDE AGSP

                             NUMBER PLOTS = 20
                               PLOT SIZE 1X1
PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.   TOTAL   AVE.    WGT./   LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT   WGT.    WGT.    UNIT    PER
              BASAL  CENT   SITION   FREQ.  GMS/20  /PLOT   BASAL   AC.
              AREA   BASAL           BASE   SQ.FT.  OCCUR-  AREA
              PER-   AREA            20             RENCES
              CENT

  6   *ARTR   11.00 .550               2
  6   *GUSA    7.00 .350               2
  6   *OPPO    1.00 5.00E-02           1
  6   *PHHO   10.70 .535               8
   PER GRASS  44.10  2.20             18      59.46    3.30    1.35  285.51
  3   AGSP    44.10 2.20      91.7    18      59.46    3.30    1.35  285.51
   PER FORBS   4.00  0.20              2       0.99    0.49    0.25    4.75
  2   PEN      2.00 .100      4.16     1
  2   SPCO     2.00 .100      4.16     2
     TOTAL          3.89      100.00          60.450                  290.26

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR	34.45
EULA	.68
GUSA	9.03
OPPO	11.80
PHHO	5.22
Shrub Prod.	61.18
Total	351.44

```
PRECIPITATION DATA
 RAIN GUAGE NO.  12   HORSE  CREEK  EXCL   JULY   23/73
OCT. 15 TO APR. 15 =   2.72
APR. 15 TO JULY 1  =   5.20
JULY 1 TO SEPT. 1  =   1.84
SEPT. 1 TO OCT. 15 =   2.66
SEASON TOTAL       =  12.42
LONG TERM AVERAGE  =  11.56
```

**no utilization

```
11 58    APR 23   RUNMWAA...
             0913    HORSE   CREEK   EXCL    JULY    23/73   OUT     AGSP

                                   NUMBER PLOTS = 20
                                     PLOT SIZE 1X1
PLANT   PLANT   TOTAL   AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
                BASAL   CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL            BASE    SQ.FT.  OCCUR-  AREA
                PER-    AREA             20              RENCES
                CENT

  6    *ARTR     33.50 1.67                  4
  6    *GUSA     39.00 1.95                 12
  6    *PHHO     13.00 .650                  6
   PER GRASS     15.70  0.78                15      12.22    0.81   0.78   58.68
  3    AGSM       0.30 1.50E-02 .993         2       0.77    0.38   2.57   3.6973
  3    AGSP      11.00 .550       36.4      15      11.05    0.74   1.00   53.059
  3    POSE       4.40 .220       14.6      10       0.40    0.04   0.09   1.9207
   PER FORBS     14.50  0.72                 5       3.00    0.60   0.21   14.41
  2    ERPU       4.00 .200       13.2       2
  2    HAAC       4.00 .200       13.2       1
  2    SPCC       6.50 .325       21.5       5
     TOTAL              5.78     100.00             15.220                 73.082

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
        ARTR                                                          23.28
        GUSA                                                         162.32
        OPPO                                                           9.72
        PHHO                                                           8.08
                                                        Shrub Prod.  203.40
                                                              Total  276.48


PRECIPITATION DATA
 RAIN GUAGE NO.  12    HORSE   CREEK   EXCL    JULY    23/73
OCT. 15 TO APR. 15 =   2.72
APR. 15 TO JULY 1  =   5.20
JULY 1 TO SEPT. 1  =   1.84
SEPT. 1 TO OCT. 15 =   2.66
SEASON TOTAL       =  12.42
LONG TERM AVERAGE  =  11.56

**Production adjusted for utilization                     utilization 13.27
                                                  Production Adjusted289.75
```

```
         0914    KANE    DEER    EXCL    AUG     8/73    INSIDE NATIVE

                                NUMBER PLOTS = 20
                                   PLOT SIZE 1X1
PLANT   PLANT   TOTAL   AVE.    PERCENT   ABS.    TOTAL   AVE.     WGT./    LBS
CODE    NAME    TRANS   PER-    COMPO-    PLOT    WGT.    WGT.     UNIT     PER
                BASAL   CENT    SITION    FREQ.   GMS/20  /PLOT    BASAL    AC.
                AREA    BASAL             BASE    SQ.FT.  OCCUR-   AREA
                PER-    AREA              20              RENCES
                CENT

  6    *GUSA     15.00 .750                  7
  6    *JUOS    307.00 15.3                  6
  6    *PHHC      2.00 .100                  1
   PER GRASS     13.50  0.67                 6       2.65    0.44    0.20    12.72
  3     AGSP     10.50 .525        53.6      6       2.53    0.42    0.24    12.148
  3     POSE      3.00 .150        15.3      2       0.12    0.06    0.04    .57620
   PER FORBS      6.10  0.30                 2       2.49    1.24    0.41    11.96
  2     ALTE      0.10 T           .510      1
  2     ERCO      4.00 .200        20.4      2
  2     EROV      1.00 5.00E-02 5.10         1
  2     HYAC      1.00 5.00E-02 5.10         1
      TOTAL             17.18    100.00              5.1400                  24.681

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

No Shrub Data Taken

```
PRECIPITATION DATA
 RAIN GUAGE NO. 21    KANE    DEER    EXCL    AUG     8/73
OCT. 15 TO APR. 15 =   3.32
APR. 15 TO JULY 1  =   4.95
JULY 1 TO SEPT. 1  =   1.33
SEPT. 1 TO OCT. 15 =   2.30
SEASON TOTAL       =  11.90
LONG TERM AVERAGE  =  12.58
```

**no utilization

```
          0914    KANE    DEER    EXCL    AUG     9/73    OUT     NATIVE

                                NUMBER PLOTS = 20
                                  PLOT SIZE 1X1
PLANT   PLANT   TOTAL   AVE.    PERCENT   ABS.     TOTAL   AVE.     WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-    PLOT     WGT.    WGT.     UNIT    PER
                BASAL   CENT    SITION    FREQ.    GMS/20  /PLOT    BASAL   AC.
                AREA    BASAL             BASE     SQ.FT.  OCCUR-   AREA
                PER-    AREA              20               RENCES
                CENT

  6    *JUCS    288.00 14.4                  5
  6    *PHHC      0.50 2.50E-02              1
  PER GRASS       3.27  0.16                 4        0.37    0.09    0.11     1.78
  3     AGGR      1.00 5.00E-02 9.74         1        0.08    0.08    0.08    .38414
  3     AGSP      1.60 8.00E-02 15.6         3        0.27    0.09    0.17    1.2965
  3     CAFI      0.30 1.50E-02 2.92         1        0.02    0.02    0.07    9.6034E-02
  ANN FORBS       7.00  0.35                 2        0.00    0.00    0.00     0.00
  4     AST       4.00 .200        38.9      1
  4     ERCV      2.00 .100        19.5      2
  4     PELA      1.00 5.00E-02 9.74         1
  3     PERG      0.37 1.85E-02 3.60         4        0.00    0.00    0.00    0.0000
    TOTAL              14.94    100.00              .37000                    1.7766

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

No Shrub Data Taken

```
PRECIPITATION DATA
 RAIN GUAGE NO. 21    KANE    DEER    EXCL    AUG     9/73
OCT. 15 TO APR. 15 =    3.32
APR. 15 TO JULY 1  =    4.95
JULY 1 TO SEPT. 1  =    1.33
SEPT. 1 TO OCT. 15 =    2.30
SEASON TOTAL       =   11.90
LONG TERM AVERAGE  =   12.58
```

**no utilization

```
          0914    KANE    DEER    EXCL    AUG     8/73    INSIDE SPRAY

                                 NUMBER PLOTS = 20
                                   PLOT SIZE 1X1
PLANT   PLANT    TOTAL   AVE.     PERCENT   ABS.     TOTAL   AVE.    WGT./   LBS
CODE    NAME     TRANS   PER-     COMPO-    PLOT     WGT.    WGT.    UNIT    PER
                 BASAL   CENT     SITION    FREQ.    GMS/20  /PLOT   BASAL   AC.
                 AREA    BASAL              BASE     SQ.FT.  OCCUR-  AREA
                 PER-    AREA               20               RENCES
                 CENT

  6    *GUSA      4.00 .200                   3
   PER GRASS     69.50  3.47                 15       35.76    2.38   0.51 171.71
  3     AGGR     45.00 2.25        36.9      15       21.48    1.43   0.48  103.14
  3     AGSP      8.00 .400        6.56       4       10.85    2.71   1.36  52.098
  3     ARLC      4.00 .200        3.28       2        1.19    0.59   0.30  5.7140
  3     KOCR      3.00 .150        2.46       3        1.04    0.35   0.35  4.9938
  3     POSE      5.50 .275        4.51       6        0.60    0.10   0.11  2.8810
  3     SIHY      4.00 .200        3.28       2        0.60    0.30   0.15  2.8810
   PER FORBS     19.00  0.95                  4        4.87    1.22   0.26  23.38
  2     STCC      9.00 .450        7.38       1
  2     EROV      9.00 .450        7.38       4
  2     GISP      1.00 5.00E-02 .820          1
   ANN GRASS      0.20  0.01                  2        0.28    0.14   1.40    1.34
  5     BRTE      0.20 1.00E-02 .164          2
   ANN FORBS     33.20  1.66                  7       11.89    1.70   0.36  57.09
  4     LARE      1.70 8.50E-02 1.39          3
  4     SIAL     20.50 1.02        16.8       7
  4     UNK      11.00 .550        9.02       6
     TOTAL             6.29      100.00               52.800                253.53

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

No Shrub Data Taken

```
PRECIPITATION DATA
 RAIN GUAGE NO. 21    KANE    DEER    EXCL    AUG     8/73
OCT. 15 TO APR. 15 =    3.32
APR. 15 TO JULY 1  =    4.95
JULY 1 TO SEPT. 1  =    1.33
SEPT. 1 TO OCT. 15 =    2.30
SEASON TOTAL       =   11.90
LONG TERM AVERAGE  =   12.58
```

**no utilization

```
            0914    KANE    DEER    EXCL    AUG      8/73    CUT     SPRAY

                                NUMBER PLOTS = 20
                                  PLOT SIZE 1X1
PLANT   PLANT    TOTAL   AVE.    PERCENT   ABS.     TOTAL    AVE.     WGT./    LBS
CODE    NAME     TRANS   PER-    COMPO-    PLOT     WGT.     WGT.     UNIT     PER
                 BASAL   CENT    SITION    FREQ.    GMS/20  /PLOT     BASAL    AC.
                 AREA    BASAL             BASE     SQ.FT.  OCCUR-    AREA
                 PER-    AREA              20               RENCES
                 CENT

  6    *GUSA      8.00  .400                  2
  6    *JUCS     80.00 4.00                   1
   PER GRASS     45.40  2.27                  5      11.30    2.26    0.25   54.26
  3     AGGR      8.00  .400        5.52      4       2.90    0.72    0.36   13.925
  3     AGSP     19.00  .950        13.1      5       5.58    1.12    0.29   26.793
  3     POSE     11.40  .570        7.86      4       0.50    0.12    0.04   2.4008
  3     SIHY      7.00  .350        4.83      1       2.32    2.32    0.33   11.140
   PER FORBS     85.00  4.25                  7      66.32    9.47    0.78  318.45
  2     ERCC     24.00 1.20         16.6      7
  2     EROV      8.00  .400        5.52      4
  2     HYAC      1.00 5.00E-02   .690        1
  2     LAC       7.00  .350        4.83      4
  2     MON      45.00 2.25         31.0      2
   ANN GRASS      0.20  0.01                  2       0.11    0.05    0.55     0.53
  5     BRTE      0.20 1.00E-02   .138        2
   ANN FORBS     14.40  0.72                  6       9.02    1.50    0.63    43.31
  4     LARE      4.70  .235        3.24      6
  4     SIAL      5.00  .250        3.45      6
  4     UNK       4.70  .235        3.24      4
     TOTAL             11.65      100.00             86.750                  416.55

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

No Shrub Data Taken

```
PRECIPITATION DATA
 RAIN GUAGE NO. 21    KANE    DEER    EXCL    AUG     8/73
OCT. 15 TO APR. 15 =    3.32
APR. 15 TO JULY 1  =    4.95
JULY 1 TO SEPT. 1  =    1.33
SEPT. 1 TO OCT. 15 =    2.30
SEASON TOTAL       =   11.90
LONG TERM AVERAGE  =   12.58
```

**no utilization

```
          0921    KANE    DEER   G.R.I. AUG    8/73   OUT    NATIVE

                                 NUMBER PLOTS = 20
                                  PLCT SIZE 1X1
  PLANT   PLANT   TCTAL   AVE.    PERCENT  ABS.    TCTAL   AVE.     WGT./   LBS
  CCDE    NAME    TRANS   PER-    CCMPC-   PLOT    WGT.    WGT.     UNIT    PER
                  BASAL   CENT    SITICN   FREQ.   GMS/20  /PLOT    BASAL   AC.
                  AREA    BASAL            BASE    SQ.FT.  OCCUR-   AREA
                  PER-    AREA             20              RENCES
                  CENT

   6    *ARNC     52.00 2.60                6
   6    *GUSA      8.00 .400                1
   6    *JUCS    502.00 25.1                9
   6    *PFHC      5.00 .250                3
    PER GRASS      5.30  0.26               7      1.43     0.20   0.27    6.87
   3    AGSP       5.20 .260      25.0      7      1.38     0.20   0.27   6.6263
   3    POSE       0.10 T         .481      1      0.05     0.05   0.50   .24008
    PER FCRBS     15.50  0.77               5      2.61     0.52   0.17   12.53
   2    ERCV       4.50 .225      21.6      2
   2    GISP       3.50 .175      16.8      5
   2    PELA       7.50 .375      36.1      3
       TCTAL           29.39     100.00           4.0400                  19.399

       * NCT CCMPUTED IN PERCENT CCMPOSITION
       T - TRACE

PRODUCTICN ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

No Shrub Data Taken

```
PRECIPITATION DATA
 RAIN GUAGE NC. 149  KANE    DEER    G.R.I. AUG    8/73
CCT. 15 TC APR. 15 =   2.83
APR. 15 TC JULY 1  =   5.12
JULY 1 TC SEPT. 1  =   1.30
SEPT. 1 TC OCT. 15 =   2.40
SEASCN TCTAL       =  11.65
LCNG TERM AVERAGE  =  13.50
```

**no utilization

```
          0921    KANE    DEER    G.R.I. AUG     9/73    INSIDE SPRAY

                                   NUMBER PLOTS = 20
                                     PLCT SIZE 1X1
PLANT   PLANT   TCTAL  AVE.    PERCENT  ABS.     TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS  PER-    CCMPC-   PLOT     WGT.    WGT.    UNIT    PER
                BASAL  CENT    SITION   FREQ.    GMS/20  /PLOT   BASAL   AC.
                AREA   BASAL            BASE     SQ.FT.  OCCUR-  AREA
                PER-   AREA             20               RENCES
                CENT

  6    *ARNC    186.50 9.32               12
  6    *GUSA     54.00 2.70                2
  6    *PHHC      1.00 5.00E-02            1
   PER GRASS     14.70  0.73               7      9.41    1.34    0.64   45.18
  3     AGGR      0.10 T          .105     1      0.03    0.03    0.30   .14405
  3     AGSP     13.30 .665       14.0     7      9.29    1.33    0.70   44.608
  3     POSE      1.30 6.50E-02 1.37       3      0.09    0.03    0.07   .43215
   PER FCRBS     11.50  0.57               3      2.62    0.87    0.23   12.58
  2     ERI2      9.00 .450       9.45     3
  2     PELA      2.50 .125       2.63     3
   ANN FCRBS     69.00  3.45               3     16.90    5.63    0.24   81.15
  4     SAKA     56.00 2.80       58.8     3
  4     SIAL     13.00 .650       13.7     2
      TCTAL            16.83    100.00           28.930                  138.91

        * NCT COMPUTED IN PERCENT COMPOSITION
        T - TRACE

PRODUCTICN ESTIMATES OF SHRUBS AND WOODY MAT FCRM PLANTS
```

No Shrub Data Taken

```
PRECIPITATION DATA
 RAIN GUAGE NC. 149  KANE    DEER    G.R.I. AUG     9/73
CCT. 15 TC APR. 15 =   2.83
APR. 15 TC JULY 1  =   5.12
JULY 1 TC SEPT. 1  =   1.30
SEPT. 1 TC OCT. 15 =   2.40
SEASCN TCTAL       =  11.65
LCNG TERM AVERAGE  =  13.50
```

**no utilization

```
         1502   KIRBY  CREEK  EXCL    JULY   24/73  INSIDE NATIVE

                                NUMBER PLOTS = 20
                                  PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.    TOTAL  AVE.    WGT./   LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT    WGT.   WGT.    UNIT    PER
               BASAL  CENT   SITION   FREQ.   GMS/20 /PLOT   BASAL   AC.
               AREA   BASAL           BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA            20             RENCES
               CENT

 6    *SAVE    88.00 4.40               4
  PER GRASS    40.60  2.03              9      44.91    4.99   1.11 215.64
 3    AGSM     12.40 .620      17.1     9      23.85    2.65   1.92  114.52
 3    POSE     21.20 1.06      29.2     8      16.11    2.01   0.76  77.355
 3    SPAI      7.00 .350      9.66     1       4.95    4.95   0.71  23.768
  ANN GRASS     1.70  0.08             13       5.14    0.40   3.02  24.68
 5    BRTE      1.70 8.50E-02 2.34     13
  ANN FORBS    30.20  1.51             19      65.78    3.46   2.18 315.86
 4    DEPI      0.10 T         .138     1
 4    LEPE     30.10 1.50      41.5    19
    TOTAL            8.02    100.00           115.83                 556.18

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

       OPPO                                                            .39
       SAVE                                                         133.99
                                                       Shrub Prod.  134.38
                                                             Total  690.56


PRECIPITATION DATA
 RAIN GUAGE NO.77      KIRBY  CREEK  EXCL    JULY   24/73
OCT. 15 TO APR. 15 =   3.75
APR. 15 TO JULY 1  =   2.16
JULY 1 TO SEPT. 1  =   1.18
SEPT. 1 TO OCT. 15 =   2.60
SEASON TOTAL       =   9.69
LONG TERM AVERAGE  =   9.00
```

**no utilization

```
        15C2   KIRBY  CREEK  EXCL   JULY   24/73  OUT   NATIVE

                             NUMBER PLOTS = 20
                               PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT   WGT.   WGT.   UNIT   PER
               BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT  BASAL  AC.
               AREA   BASAL           BASE   SQ.FT. OCCUR- AREA
               PER-   AREA            20            RENCES
               CENT

  6   *SAVE    174.00 8.70              6
   PER GRASS    27.80  1.39            11     31.31   2.85  1.13 150.34
  3    AGSM     19.30 .965     24.9    11     29.55   2.69  1.53  141.89
  3    POSE      8.50 .425     11.0     5      1.76   0.35  0.21  8.4510
   ANN GRASS     0.40  0.02             4      0.29   0.07  0.72    1.39
  5    BRTE      0.40 2.00E-02 .516     4
   ANN FORBS    49.30  2.46            20     87.30   4.36  1.77 419.19
  4    LARE      0.10 T        .129     1
  4    LEPE     48.80 2.44     63.0    20
  4    PLSP      0.40 2.00E-02 .516     3
     TOTAL            12.57   100.00          118.90                570.92

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

      OPPO                                                         10.23
      SAVE                                                        112.84
                                                      Shrub Prod. 123.07
                                                            Total 693.99


PRECIPITATION DATA
 RAIN GUAGE NO. 77   KIRBY  CREEK  EXCL   JULY   24/73
OCT. 15 TO APR. 15 = 3.75
APR. 15 TO JULY 1  = 2.16
JULY 1 TO SEPT. 1  = 1.18
SEPT. 1 TO OCT. 15 = 2.60
SEASON TOTAL       = 9.69
LONG TERM AVERAGE  = 9.00
```

**no utilization

```
        1001    LANDER ANT     EXCL   AUG    17/73  INSIDE NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT   PLANT   TOTAL   AVE.    PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-    PLOT    WGT.    WGT.    UNIT    PER
                BASAL   CENT    SITION    FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL             BASE    SQ.FT.  OCCUR-  AREA
                PER-    AREA              20              RENCES
                CENT

  6    *ARTR    272.00 13.6               15
  6    *OPPO      6.00 .300                1
  6    *PHHO     21.00 1.05                4
   PER GRASS     35.30  1.76              19      25.29    1.33   0.72 121.43
  3     AGSM      8.40 .420        16.5   19      12.23    0.64   1.46  58.725
  3     CAEL      0.40 2.00E-02 .784       2       0.48    0.24   1.20  2.3048
  3     POSE      9.00 .450        17.6   12       1.81    0.15   0.20  8.6911
  3     STCO     17.50 .875        34.3    8      10.77    1.35   0.62  51.714
   PER FORBS     13.70  0.68               7       2.00    0.29   0.15    9.60
  2     ALTE      0.10 T           .196    1
  2     ERPU      0.60 3.00E-02 1.18       2
  2     SPCO     13.00 .650        25.5    7
   ANN FORBS      2.00  0.10              17       1.76    0.10   0.88    8.45
  4     GIPU      0.20 1.00E-02 .392       2
  4     PLPA      1.80 9.00E-02 3.53      17
     TOTAL             17.50  100.00              29.050                 139.49

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE
```

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	241.92
OPPO	8.22
PHHO	7.80
Shrub Prod.	257.94
Total	397.43

```
PRECIPITATION DATA
 RAIN GUAGE NO. 5    LANDER ANT    EXCL   AUG    17/73
OCT. 15 TO APR. 15 = 2.10
APR. 15 TO JULY 1  = 0.36
JULY 1 TO SEPT. 1  = 1.10
SEPT. 1 TO OCT. 15 = 3.45
SEASON TOTAL       = 7.01
LONG TERM AVERAGE  = 8.76
```

**no utilization

```
        1001   LANDER ANT    EXCL   AUG    17/73  OUT     NATIVE

                             NUMBER PLOTS = 20
                               PLOT SIZE 1X1
PLANT   PLANT   TOTAL  AVE.     PERCENT  ABS.    TOTAL   AVE.     WGT./   LBS
CODE    NAME    TRANS  PER-     COMPO-   PLOT    WGT.    WGT.     UNIT    PER
                BASAL  CENT     SITION   FREQ.   GMS/20  /PLOT    BASAL   AC.
                AREA   BASAL             BASE    SQ.FT.  OCCUR-   AREA
                PER-   AREA              20              RENCES
                CENT

  6    *ARTR    229.00 11.4                11
  6    *OPPO     23.00 1.15                 4
  6    *PHHO     25.50 1.27                 4
   PER GRASS     52.40  2.62               20      38.27    1.91   0.73 183.76
  3     AGSM     13.50 .675       17.4     20      26.88    1.34   1.99  129.07
  3     BOGR     20.00 1.00       25.8      3       2.88    0.96   0.14  13.829
  3     CRHY      1.00 5.00E-02 1.29        1       0.69    0.69   0.69  3.3132
  3     POSE     10.90 .545       14.1     10       2.99    0.30   0.27  14.357
  3     STCO      7.00 .350       9.04      3       4.83    1.61   0.69  23.192
   PER FORBS     20.10  1.00               11       2.98    0.27   0.15  14.31
  2     ERPU      1.60 8.00E-02 2.07        4
  2     SPCO     18.50 .925       23.9     11
   ANN FORBS      4.90  0.24               19       6.81    0.36   1.39  32.70
  4     PLPA      4.90 .245       6.33     19
     TOTAL             17.74    100.00             48.060                230.77

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE
```

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	213.56
OPPO	14.21
PHHO	98.41
Shrub Prod.	326.18
Total	556.95

PRECIPITATION DATA

RAIN GUAGE NO. 5   LANDER ANT   EXCL   AUG   17/73

OCT. 15 TO APR. 15 = 2.10

APR. 15 TO JULY 1 = 0.36

JULY 1 TO SEPT. 1 = 1.10

SEPT. 1 TO OCT. 15 = 3.45

SEASON TOTAL = 7.01

LONG TERM AVERAGE = 8.76

**no utilization

```
10:42   APR 24  RUNSGBA...
           1003   LOWER  GOVT   DRAW   AUG    21/73  INSIDE NATIVE

                         NUMBER PLOTS = 20
                           PLOT SIZE 1X1
PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT   WGT.   WGT.   UNIT   PER
              BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT  BASAL  AC.
              AREA   BASAL           BASE   SQ.FT. OCCUR- AREA
              PER-   AREA            20            RENCES
              CENT

  6   *ARTR   283.00 14.1              13
   PER GRASS   41.00  2.05             19    36.66    1.93  0.89 176.03
  3   AGSM     23.80 1.19     21.4     19    27.98    1.47  1.18  134.35
  3   POSE      4.20 .210     3.78      4     0.52    0.13  0.12  2.4969
  3   STCC     13.00 .650     11.7      4     8.16    2.04  0.63  39.182
   PER FORBS   67.00  3.35              2    22.69   11.34  0.34 108.95
  2   AST      65.00 3.25     58.5      2
  2   ERPU      1.00 5.00E-02 .900      1
  2   SPCC      1.00 5.00E-02 .900      1
   ANN GRASS    3.00  0.15             14     1.28    0.09  0.43    6.15
  5   BRTE      3.00 .150     2.70     14
   ANN FORBS    0.10  0.00              1     0.05    0.05  0.50    0.24
  4   GIPU      0.10 T       9.00E-02   1
     TOTAL          19.70    100.00          60.680                 291.37

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR	463.96
PHHO	.04
Shrub Prod.	464.00
Total	755.37

```
PRECIPITATION DATA
 RAIN GUAGE NO. 16   LOWER  GOVT   DRAW    AUG    21/73
OCT. 15 TO APR. 15 =  7.80
APR. 15 TO JULY 1  =  0.20
JULY 1 TO SEPT. 1  =  2.11
SEPT. 1 TO OCT. 15 =  5.24
SEASON TOTAL       = 15.35
LONG TERM AVERAGE  = 10.91
```

**no utilization

1003 LOWER GOVT DRAW AUG 21/73 OUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*CHVI	45.00	2.25		1				
	PER GRASS	58.00	2.90		19	22.69	1.19	0.39	108.95
3	AGSM	21.60	1.08	32.4	19	17.78	0.94	0.82	85.374
3	POSE	6.40	.320	9.61	9	1.15	0.13	0.18	5.5219
3	STCO	30.00	1.50	45.0	11	3.76	0.34	0.13	18.054
	PER FORBS	5.00	0.25		2	0.37	0.18	0.07	1.78
2	AST	2.00	.100	3.00	1				
2	SPCO	3.00	.150	4.50	2				
	ANN GRASS	3.40	0.17		16	4.20	0.26	1.24	20.17
5	BRTE	3.40	.170	5.11	16				
	ANN FORBS	0.20	0.01		2	0.05	0.02	0.25	0.24
4	GIPU	0.20	1.00E-02	.300	2				
	TOTAL		5.58	100.00		27.310			131.13

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	404.19
CHVI	10.94
EULA	1.04
OPPO	1.66
Shrub Prod.	417.83
Total	548.96

PRECIPITATION DATA
RAIN GUAGE NO. 16 LOWER GOVT DRAW AUG 21/73
OCT. 15 TO APR. 15 = 7.80
APR. 15 TO JULY 1 = 0.20
JULY 1 TO SEPT. 1 = 2.11
SEPT. 1 TO OCT. 15 = 5.24
SEASON TOTAL = 15.35
LONG TERM AVERAGE = 10.91

**Production adjusted for utilization

utilization	43.83
Production Adjusted	592.79

1003 LOWER GOVT DRAW AUG 21/73 INSIDE SPRAY

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PERCENT	AVE. PERCENT BASAL AREA	PERCENT COMPOSITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCURRENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
	PER GRASS	93.90	4.69		19	89.81	4.73	0.96	431.24
3	AGSM	23.90	1.19	22.8	19	33.74	1.78	1.41	162.01
3	POSE	1.50	7.50E-02	1.43	3	0.15	0.05	0.10	.72025
3	STCO	68.50	3.42	65.4	15	55.92	3.73	0.82	268.51
	PER FORBS	3.00	0.15		1	0.86	0.86	0.29	4.13
2	SPCO	2.00	.100	1.91	1				
2	VIAM	1.00	5.00E-02	.954	1				
	ANN GRASS	7.90	0.39		20	6.89	0.34	0.87	33.08
5	BRTE	7.90	.395	7.54	20				
	TOTAL		5.24	100.00		97.560			468.45

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	38.43
OPPO	1.04
Shrub Prod.	39.47
Total	507.92

PRECIPITATION DATA
RAIN GUAGE NO. 16 LOWER GOVT DRAW AUG 21/73

OCT. 15 TO APR. 15 = 7.80
APR. 15 TO JULY 1 = 0.20
JULY 1 TO SEPT. 1 = 2.11
SEPT. 1 TO OCT. 15 = 5.24
SEASON TOTAL = 15.35
LONG TERM AVERAGE = 10.91

**no utilization

```
        1003   LOWER  GOVT   DRAW   AUG    21/73  OUT    SPRAY

                                  NUMBER PLOTS = 20
                                     PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.    TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT    WGT.   WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.   GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL           BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA            20             RENCES
               CENT

  6   *ARTR   399.00 19.9              11
   PER GRASS   41.90  2.09             15      14.28   0.95   0.34   68.57
  3    AGSM     8.40 .420       15.9   14       8.28   0.59   0.99   39.758
  3    KOCR     3.50 .175       6.64    3       1.19   0.40   0.34   5.7140
  3    POSE    18.00 .900       34.2   15       2.53   0.17   0.14   12.148
  3    STCO    12.00 .600       22.8    8       2.28   0.28   0.19   10.948
   PER FORBS    8.50  0.42              5       1.02   0.20   0.12    4.90
  2    ERPU     0.50 2.50E-02 .949      1
  2    SPCO     8.00 .400       15.2    5
   ANN GRASS    1.70  0.08             13       1.27   0.10   0.75    6.10
  5    BRTE     1.70 8.50E-02 3.23     13
   ANN FORBS    0.60  0.03              5       0.13   0.03   0.22    0.62
  4    GIPU     0.50 2.50E-02 .949      5
  4    PLPA     0.10 T         .190     1
     TOTAL            22.58   100.00           16.700                80.188

         * NOT COMPUTED IN PERCENT COMPOSITION
         T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR	61.20
CHVI	3.47
Shrub Prod.	64.670
Total	144.860

```
PRECIPITATION DATA
 RAIN GUAGE NO. 16   LOWER  GOVT   DRAW   AUG    21/73
OCT. 15 TO APR. 15 =  7.80
APR. 15 TO JULY 1  =  0.20
JULY 1 TO SEPT. 1  =  2.11
SEPT. 1 TO OCT. 15 =  5.24
SEASON TOTAL       = 15.35
LONG TERM AVERAGE  = 10.91
```

utilization 4.03

**Production adjusted for utilization

Production Adjusted 148.89

```
        1004   MCGRAW FLAT    EXCL    AUG     17/73  INSIDE NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
               BASAL  CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
               AREA   BASAL            BASE    SQ.FT.  OCCUR-  AREA
               PER-   AREA             20              RENCES
               CENT

  6   *ARTR   448.00 22.4               16
  6   *PHHO    18.00 .900                6
   PER GRASS   60.90  3.04              20      41.55    2.08   0.68 199.51
  3    AGSM    17.10 .855       15.6    20      27.11    1.36   1.59  130.17
  3    POFE    43.10 2.15       39.3    14      14.30    1.02   0.33  68.664
  3    POSE     0.70 3.50E-02 .638       2       0.14    0.07   0.20  .67224
   PER FORBS   48.90  2.44              16      10.96    0.68   0.22  52.63
  2    CRE      1.00 5.00E-02 .911       1
  2    ERPU     0.50 2.50E-02 .455       1
  2    PELA    27.00 1.35       24.6    16
  2    SPCC     3.00 .150       2.73     2
  2    TRI      0.40 2.00E-02 .364       3
  2    VIAM    17.00 .850       15.5     7
     TOTAL            28.79   100.00           52.510                  252.14

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR	150.67
CHVI	3.55
LEPU	1.04
PHHO	39.90
Shrub Prod.	195.16
Total	252.14

```
PRECIPITATION DATA
 RAIN GUAGE NO. 14    MCGRAW FLAT    EXCL    AUG     17/73
OCT. 15 TO APR. 15 =  6.60
APR. 15 TO JULY 1  =  0.15
JULY 1 TO SEPT. 1  =  2.97
SEPT. 1 TO OCT. 15 =  4.93
SEASON TOTAL       = 14.65
LONG TERM AVERAGE  = 10.04
```

**no utilization

1004 MCGRAW FLATS EXCL AUG 17/73 OUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	237.00	11.8		14				
6	*CHVI	29.50	1.47		6				
6	*PHHC	21.10	1.05		5				
PER GRASS		133.50	6.67		20	53.23	2.66	0.40	255.59
3	AGSM	22.20	1.11	13.0	20	28.88	1.44	1.30	138.67
3	POFE	108.00	5.40	63.5	18	23.45	1.30	0.22	112.60
3	POSE	3.30	.165	1.94	6	0.90	0.15	0.27	4.3215
PER FORBS		36.70	1.83		8	9.83	1.23	0.27	47.20
2	CAS	2.00	.100	1.18	1				
2	ERPU	4.10	.205	2.41	7				
2	PELA	23.20	1.16	13.6	8				
2	TRI	0.40	2.00E-02	.235	3				
2	VIAM	7.00	.350	4.11	5				
TOTAL			22.89	100.00		63.060			302.79

* NCT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	113.00
CHNA	1.32
CHVI	10.97
LEPU	.94
PHHO	45.90
Shrub Prod.	172.13
Total	474.92

PRECIPITATION DATA
RAIN GUAGE NO. MCGRAW FLATS EXCL AUG 17/73
OCT. 15 TO APR. 15 = 6.60
APR. 15 TO JULY 1 = 0.15
JULY 1 TO SEPT. 1 = 2.97
SEPT. 1 TO OCT. 15 = 4.73
SEASON TOTAL = 14.65
LONG TERM AVERAGE = 10.04

**no utilization

```
        0920   MEDICI LODGE  G.R.I. AUG    9/73   INSIDE SPRAY

                          NUMBER PLOTS = 20
                            PLOT SIZE 1X1
PLANT   PLANT  TOTAL   AVE.    PERCENT  ABS.    TOTAL  AVE.    WGT./   LBS
CODE    NAME   TRANS   PER-    COMPO-   PLOT    WGT.   WGT.    UNIT    PER
               BASAL   CENT    SITION   FREQ.  GMS/20 /PLOT    BASAL   AC.
               AREA    BASAL            BASE   SQ.FT. OCCUR-  AREA
               PER-    AREA             20            RENCES
               CENT

  6   *ARTR    126.00 6.30                 3
   PER GRASS   92.10  4.60                12     35.75    2.98   0.39 171.66
  3    AGSP    11.00 .550       10.4       3      8.12    2.71   0.74  38.990
  3    FEID    53.50 2.67       50.4       8     18.00    2.25   0.34  86.430
  3    KOCR     8.00 .400       7.53       5      3.89    0.78   0.49  18.679
  3    POSE     8.40 .420       7.91      12      2.61    0.22   0.31  12.532
  3    STCO    11.20 .560       10.5       5      3.13    0.63   0.28  15.029
   PER FORBS    2.00  0.10                 1      1.17    1.17   0.58   5.62
  2    GISP     2.00 .100       1.88       1
   ANN GRASS    1.70  0.08                 7      0.97    0.14   0.57   4.66
  5    BRTE     1.50 7.50E-02 1.41         7
  5    FEOC     0.20 1.00E-02 .188         2
   ANN FORBS   10.40  0.52                18      7.54    0.42   0.72  36.20
  4    ALDE    10.20 .510       9.60      18
  4    MICR     0.20 1.00E-02 .188         2
    TOTAL            11.61    100.00            45.430                218.14

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

No Shrub Data Taken

```
PRECIPITATION DATA
 RAIN GAUGE NO. 148    MEDICI LODGE  G.R.I. AUG    9/73
OCT. 15 TO APR. 15 =    3.48
APR. 15 TO JULY 1  =    5.40
JULY 1 TO SEPT. 1  =    2.30
SEPT. 1 TO OCT. 15 =    2.75
SEASON TOTAL       =   13.93
LONG TERM AVERAGE  =   14.01
```

**no utilization

```
12 49   APR 24  RUN4IBA...
          0920   MEDICI LODGE  G.R.I. AUG    9/73   OUT    NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT   PLANT   TOTAL   AVE.    PERCENT  ABS.     TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-   PLOT     WGT.    WGT.    UNIT    PER
                BASAL   CENT    SITION   FREQ.    GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL            BASE     SQ.FT.  OCCUR-  AREA
                PER-    AREA             20               RENCES
                CENT

  6    *ARTR    22.00 1.10                  2
  6    *GUSA     4.00 .200                  2
  6    *JUCS   100.00 5.00                  1
  6    *PHHO     4.50 .225                  2
   PER GRASS    55.50  2.77                13     11.74    0.90   0.21   56.37
  3    AGSP      6.30 .315       8.96       8      2.23    0.28   0.35   10.708
  3    FEID     12.50 .625      17.8        7      1.54    0.22   0.12   7.3946
  3    KOCR     22.10 1.10      31.4       12      4.69    0.39   0.21   22.520
  3    POSE      9.60 .480      13.7       13      1.55    0.12   0.16   7.4426
  3    STCO      5.00 .250       7.11       9      1.73    0.19   0.35   8.3069
   PER FORBS     1.70  0.08                 2      0.28    0.14   0.16    1.34
  2    ERPU      1.20 6.00E-02 1.71         2
  2    SED       0.50 2.50E-02 .711         1
   ANN GRASS     0.10  0.00                 1      0.04    0.04   0.40    0.19
  5    FEOC      0.10 T          .142       1
   ANN FORBS    13.00  0.65                19      7.01    0.37   0.54   33.66
  4    ALDE     13.00 .650      18.5       19
     TOTAL            10.04    100.00             19.070                 91.568

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

No Shrub Data Taken

```
PRECIPITATION DATA
 RAIN GUAGE NO. 148  MEDICI LODGE  G.R.I. AUG    9/73
OCT. 15 TO APR. 15 =   3.48
APR. 15 TO JULY 1  =   5.40
JULY 1 TO SEPT. 1  =   2.30
SEPT. 1 TO OCT. 15 =   2.75
SEASON TOTAL       =  13.93
LONG TERM AVERAGE  =  14.01
```

utilization 0.08

Production Adjusted 91.65

**Production adjusted for utilization

```
         2301   MESA   ANTELO EXCL   AUG    15/73  INSIDE NATIVE

                                NUMBER PLOTS = 20
                                  PLOT SIZE 1X1
PLANT   PLANT   TOTAL   AVE.    PERCENT  ABS.     TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-   PLOT     WGT.    WGT.    UNIT    PER
                BASAL   CENT    SITION   FREQ.    GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL            BASE     SQ.FT.  OCCUR-  AREA
                PER-    AREA             20               RENCES
                CENT

  6    *ARTR    238.50 11.9               17
  6    *CHVI     35.00 1.75                4
  6    *PHHO     25.00 1.25                6
   PER GRASS     62.50  3.12              20       23.00    1.15   0.37 110.44
  3     AGSM     29.50 1.47       46.8    20       17.45    0.87   0.59  83.790
  3     CAEL      2.00 .100       3.17     1        0.35    0.35   0.17  1.6806
  3     POSE     23.00 1.15       36.5    12        3.08    0.26   0.13  14.789
  3     SIHY      3.00 .150       4.76     3        0.77    0.26   0.26  3.6973
  3     STCO      5.00 .250       7.94     1        1.35    1.35   0.27  6.4823
   PER FORBS      0.50  0.02               1        0.04    0.04   0.08   0.19
  2     TRI       0.50 2.50E-02 .794       1
     TOTAL             18.07    100.00            23.040                 110.63

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
       ARTR                                                              257.45
       CHVI                                                                8.61
       EULA                                                               12.29
       PHHO                                                               23.44
                                                           Shrub Prod.   301.79
                                                                 Total   412.42


PRECIPITATION DATA
 RAIN GUAGE NO.        MESA   ANTELO EXCL   AUG    15/73
OCT. 15 TO APR. 15 =
APR. 15 TO JULY 1  =
JULY 1 TO SEPT. 1  =
SEPT. 1 TO OCT. 15 =   No Precipitation Data Taken
SEASON TOTAL       =
LONG TERM AVERAGE  =
          2301   MESA   ANTELO EXCL   AUG    15/73  OUT    NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.     TOTAL   AVE.     WGT./   LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT     WGT.    WGT.     UNIT    PER
               BASAL  CENT    SITION   FREQ.    GMS/20  /PLOT    BASAL   AC.
               AREA   BASAL            BASE     SQ.FT.  OCCUR-   AREA
               PER-   AREA             20               RENCES
               CENT

 6    *ARTR   345.00 17.3               14
 6    *CHVI    65.00 3.25                9
 6    *PHHO    39.00 1.95                8
  PER GRASS    48.20  2.41              20       20.74   1.04    0.43    99.59
 3     AGSM    19.20 .960      38.6     20       15.15   0.76    0.79    72.746
 3     CAEL     3.00 .150      6.04      2        0.93   0.46    0.31    4.4656
 3     CRHY     5.00 .250      10.1      2        2.42   1.21    0.48    11.620
 3     POSE    18.00 .900      36.2      8        1.70   0.21    0.09    8.1629
 3     SIHY     3.00 .150      6.04      4        0.54   0.13    0.18    2.5929
  PER FORBS     0.50  0.02               1        0.07   0.07    0.14     0.34
 2     TRI      0.50 2.50E-02 1.01       1
  ANN FORBS     1.00  0.05               1        0.15   0.15    0.15     0.72
 4     ERAN     1.00 5.00E-02 2.01       1
     TOTAL           24.93    100.00             20.960                  100.64

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

      ARTR                                                               174.90
      CHVI                                                                25.83
      EULA                                                                 4.67
      PHHO                                                                11.57
                                                          Shrub Prod.    216.97
                                                                Total    317.61

PRECIPITATION DATA
 RAIN GUAGE NO.         MESA   ANTELO EXCL   AUG     15/73
OCT. 15 TO APR. 15 =
APR. 15 TO JULY 1  =
JULY 1 TO SEPT. 1  =    No Precipitation Data Taken
SEPT. 1 TO OCT. 15 =
SEASON TOTAL       =
LONG TERM AVERAGE  =
          1503   NORTH  BUTTE  EXCL    JULY   25/73  RELIC

                             NUMBER PLOTS = 20
                               PLOT SIZE 1X1
PLANT   PLANT   TOTAL   AVE.   PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-   COMPO-    PLOT    WGT.    WGT.    UNIT    PER
                BASAL   CENT   SITION    FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL            BASE    SQ.FT.  OCCUR-  AREA
                PER-    AREA             20              RENCES
                CENT

  6    *ARTR    94.00 4.70                 6
  6    *OPPO     7.00 .350                 1
  6    *PHHO     6.50 .325                 4
   PER GRASS  104.10  5.20                20    109.68    5.48  1.05 526.65
  3     AGSP    99.40 4.97        94.9    20    106.82    5.34  1.07  512.92
  3     BOGR     0.20 T           .191     1      0.06    0.06  0.30  .28810
  3     CAFI     0.50 2.50E-02 .478        1      0.25    0.25  0.50  1.2004
  3     POSE     3.00 .150        2.87     4      0.34    0.08  0.11  1.6326
  3     STCO     1.00 5.00E-02 .955        1      2.21    2.21  2.21  10.612
   PER FORBS     0.50  0.02                3      0.63    0.21  1.26   3.03
  2     CRAC     0.10 T           9.55E-02 1
  2     SPCO     0.30 1.50E-02 .287        3
  2     UMB      0.10 T           9.55E-02 1
   ANN FORBS     0.10  0.00                1      0.11    0.11  1.10   0.53
  4     LARE     0.10 T           9.55E-02 1
     TOTAL          10.61      100.00           110.42               530.20

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR	15.21
OPPO	7.41
PHHO	.53
Shrub Prod.	23.15
Total	553.35

```
PRECIPITATION DATA
 RAIN GUAGE NO. 133  NORTH  BUTTE  EXCL   JULY   25/73
OCT. 15 TO APR. 15 =   3.67
APR. 15 TO JULY 1  =   3.04
JULY 1 TO SEPT. 1  =   1.30
SEPT. 1 TO OCT. 15 =   2.66
SEASON TOTAL       =  10.67
LONG TERM AVERAGE  =   9.59
```

**no utilization

1504 ROUND TOP RELIC JULY 25/73 RELIC

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
	PER GRASS	168.20	8.41		15	104.17	6.94	0.62	500.19
3	AGSP	71.20	3.56	42.3	14	71.00	5.07	1.00	340.92
3	CAFI	52.00	2.60	30.9	15	11.43	0.76	0.22	54.883
3	KOCR	3.00	.150	1.78	2	2.10	1.05	0.70	10.084
3	POSE	12.50	.625	7.42	11	2.36	0.21	0.19	11.332
3	STCO	29.50	1.47	17.5	7	17.28	2.47	0.59	82.973
	PER FORBS	0.20	0.01		1	0.89	0.89	4.45	4.27
2	ALTE	0.10	T	5.94E-02	1				
2	CRE	0.10	T	5.94E-02	1				
	TOTAL		8.42	100.00		105.06			504.47

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	7.18
GUSA	17.95
PHHO	.45
Shrub Prod.	25.60
Total	530.07

PRECIPITATION DATA
RAIN GUAGE NO. 182 ROUND TOP RELIC JULY 25/73
OCT. 15 TO APR. 15 = 5.00
APR. 15 TO JULY 1 = 3.32
JULY 1 TO SEPT. 1 = 1.30
SEPT. 1 TO OCT. 15 = 3.03
SEASON TOTAL = 12.65
LONG TERM AVERAGE = 11.96

**no utilization

```
        1505   SAND   GULCH  EXCL   JULY   18/73  INSIDE NATIVE

                          NUMBER OF PLOTS
                    COVER = 200, PRODUCTION = 20
                     PLOT SIZE 1 FT. X 10 FT.
PLANT   PLANT   TOTAL   AVE.    PERCENT   ABS.    TOTAL   AVE.     WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-    PLOT    WGT.    WGT.     UNIT    PER
                BASAL   CENT    SITION    FREQ.   GMS/    /PLOT    BASAL   AC.
                AREA    BASAL             BASE    200     OCCUR-   AREA
                PER-    AREA              200     SQ.FT.  RENCES
                CENT

  6  OPPO       133.5   .667                 34
  1  ATNU      1052.7   5.26       52.8      92   234.51    2.55   0.22   112.60
   PER GRASS    193.9   .969                113   230.03    2.04   1.19   110.45
  3  AGSM       166.3   .831       8.34     113   206.55    1.83   1.24   99.179
  3  ORHY         8.0   4.00E-02  .401        5    18.10    3.62   2.26   8.6911
  3  POSE        19.5   9.75E-02  .978       19     5.31    0.28   0.27   2.5497
  3  SIHY         0.1   T          T          1     0.07    0.07   0.70   3.36125E-02
   PER FORBS      0.30   0.00                 2     0.13    0.06   0.43    0.06
  2  SPCO         0.3   T          1.50E-02   2
   ANN GRASS    512.10   2.56               186   391.71    2.11   0.76  188.09
  5  BRJA         0.9   T          4.51E-02   6
  5  BRTE       511.2   2.56       25.6     186
   ANN FORBS    234.40   1.17                63    72.86    1.16   0.31   34.99
  4  DEPI         0.2   T          1.00E-02   2
  4  LARE         0.1   T          T          1
  4  LEPE       234.1   1.17       11.7      63
     TOTAL              10.6      100.00          929.240                446.193

          * NOT COMPUTED IN PERCENT COMPOSITION
          T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
          OPPO
                                                                          24.90
                                                             Shrub Prod.  24.90
                                                                  Total 471.093


PRECIPITATION DATA
 RAIN GUAGE NO. 75   SAND   GULCH   EXCL   JULY   18/73
OCT. 15 TO APR. 15 =   2.60
APR. 15 TO JULY 1  =   2.02
JULY 1 TO SEPT. 1  =   1.90
SEPT. 1 TO OCT. 15 =   2.00
SEASON TOTAL       =   8.52
LONG TERM AVERAGE  =   8.91

**no utilization
```

```
15 53   MAY 02  RUNPNCA...
           1505    SAND    GULCH   EXCL     JULY    18/73   OUT     NATIVE

                              NUMBER OF PLOTS
                        COVER = 200, PRODUCTION = 20
                         PLOT SIZE 1 FT. X 10 FT.
PLANT   PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS  PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
                BASAL  CENT    SITION   FREQ.   GMS/    /PLOT   BASAL   AC.
                AREA   BASAL            BASE    200     OCCUR-  AREA
                PER-   AREA             200     SQ.FT.  RENCES
                CENT

  6  *OPPO      49.7  .248                15
  1  ATNU      771.2  3.86       35.4     92    210.74    2.29  0.27  101.19
   PER GRASS   281.1  1.41                83    132.99    1.60  0.47  63.858
  3  AGSM      218.9  1.09       10.0     83    109.60    1.32  0.50  52.627
  3  AGSP        4.0  2.00E-02 .184        1      3.88    3.88  0.97  1.8631
  3  BOGR       17.5  8.75E-02 .803        9      3.51    0.39  0.20  1.6854
  3  ORHY        8.7  4.35E-02 .399        7      6.00    0.86  0.69  2.8810
  3  POSE       29.0  .145       1.33     19      8.75    0.46  0.30  4.2015
  3  SIHY        3.0  1.50E-02 .138        1      1.25    1.25  0.42  .60021
   PER FORBS    0.80  0.00                 2      0.35    0.17  0.44    0.17
  2  SPCO        0.1  T        T           1
  2  VIO         0.7  T        3.21E-02    2
   ANN GRASS  ******   5.48              196    547.61    2.79  0.50 262.95
  5  BRTE     1096.8  5.48       50.3    196
   ANN FORBS   29.90   0.15               54     10.45    0.19  0.35    5.02
  4  CAMI        0.7  T        3.21E-02    2
  4  CHEN        2.1  1.05E-02 9.63E-02   13
  4  CHTE        1.5  T        6.88E-02    2
  4  DEPI        0.1  T        T           1
  4  LARE        8.0  4.00E-02 .367       54
  4  LEDE       12.2  6.10E-02 .560        2
  4  LEPE        1.8  T        8.26E-02    5
  4  PLSP        3.5  1.75E-02 .161       26
     TOTAL             11.1     100.00         902.140                  433.180

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

      OPPO                                                         58.03
                                                       Shrub Prod. 58.03
                                                             Total 491.21


PRECIPITATION DATA
 RAIN GUAGE NO. 75    SAND    GULCH   EXCL     JULY    18/73
OCT. 15 TO APR. 15 =   2.60
APR. 15 TO JULY 1  =   2.02
JULY 1 TO SEPT. 1  =   1.90
SEPT. 1 TO OCT. 15 =   2.00
SEASON TOTAL       =   8.52
LONG TERM AVERAGE  =   8.91
**no utilization
```

1009 SHOSHO ANT SO EXCL 2 AUG 21/73 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	195.00	9.75		10				
6	*OPPO	28.00	1.40		5				
	PER GRASS	110.50	5.52		13	43.07	3.31	0.39	206.81
3	AGSM	3.30	.165	2.93	9	5.74	0.64	1.74	27.562
3	BOGR	94.00	4.70	83.5	13	29.59	2.28	0.31	142.08
3	POSE	2.20	.110	1.95	6	1.08	0.18	0.49	5.1858
3	STCO	11.00	.550	9.77	2	6.66	3.33	0.61	31.979
	PER FORBS	1.00	0.05		1	0.16	0.16	0.16	0.77
2	SPCO	1.00	5.00E-02	.888	1				
	ANN FORBS	1.10	0.05		9	0.30	0.03	0.27	1.44
4	DEPI	0.10	T	8.88E-02	1				
4	GIPU	0.10	T	8.88E-02	1				
4	PLSP	0.90	4.50E-02	.799	9				
	TOTAL		16.78	100.00		43.530			209.02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	139.59
OPPO	14.13
PHHO	.40
Shrub Prod.	154.12
Total	363.14

PRECIPITATION DATA
RAIN GUAGE NO. 169 SHOSHO ANT SO EXCL 2 AUG 21/73

OCT. 15 TO APR. 15 =	2.78
APR. 15 TO JULY 1 =	2.92
JULY 1 TO SEPT. 1 =	1.96
SEPT. 1 TO OCT. 15 =	3.99
SEASON TOTAL =	11.65
LONG TERM AVERAGE =	10.45

**no utilization

```
15 22    APR 24  RUNTMBA...
           1069   SHOSHO ANT NO EXCL 2 AUG    21/73  INSIDE NATIVE

                                  NUMBER PLOTS = 20
                                    PLOT SIZE 1X1
PLANT   PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS  PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
                BASAL  CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA   BASAL            BASE    SQ.FT.  OCCUR-  AREA
                PER-   AREA             20              RENCES
                CENT

  6    *ARTR   160.00 8.00                11
  6    *OPPO    10.00 .500                 3
  6    *PHHO     7.00 .350                 1
   PER GRASS  148.50  7.42                15     48.20    3.21   0.32 231.44
  3     AGSM     6.70 .335       4.41      8      8.42    1.05   1.26  40.430
  3     BOGR   134.00 6.70       88.2     15     35.52    2.37   0.27  170.56
  3     POSE     4.80 .240       3.16      5      2.39    0.48   0.50  11.476
  3     STCO     3.00 .150       1.97      1      1.87    1.87   0.62  8.9792
   PER FORBS     2.10  0.10                1      0.70    0.70   0.33   3.36
  2     ALTE     0.10 T        6.58E-02    1
  2     SPCO     2.00 .100       1.32      1
   ANN FORBS     1.40  0.07                7      0.64    0.09   0.46   3.07
  4     CRBR     0.50 2.50E-02 .329        1
  4     CEPI     0.20 1.00E-02 .132        2
  4     PLSP     0.70 3.50E-02 .461        7
     TOTAL           16.45    100.00             49.540                237.88

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR		139.59
OPPO		14.13
PHHO		.40
	Shrub Prod.	154.12
	Total	392.00

```
PRECIPITATION DATA
 RAIN GUAGE NO. 169   SHOSHO ANT NO EXCL 2 AUG     21/73
OCT. 15 TO APR. 15 =    2.78
APR. 15 TO JULY 1  =    2.92
JULY 1 TO SEPT. 1  =    1.96
SEPT. 1 TO OCT. 15 =    3.99
SEASON TOTAL       =   11.65
LONG TERM AVERAGE  =   10.45
```

**no utilization

1009 SHOSHO ANT EXCL 2 AUG 21/73 OUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	189.00	9.45		11				
6	*OPPO	15.00	.750		4				
6	*PHHO	3.00	.150		1				
PER GRASS		85.50	4.27		15	38.79	2.59	0.45	186.26
3	AGSM	11.30	.565	12.7	15	21.02	1.40	1.86	100.93
3	BOGR	72.00	3.60	81.2	8	17.10	2.14	0.24	82.109
3	POSE	1.20	6.00E-02	1.35	2	0.00	0.00	0.00	0.0000
3	STCO	1.00	5.00E-02	1.13	1	0.67	0.67	0.67	3.2171
ANN GRASS		0.20	0.01		1	0.05	0.05	0.25	0.24
5	BRTE	0.10	T	.113	1				
5	FEOC	0.10	T	.113	1				
ANN FORBS		3.00	0.15		12	0.59	0.05	0.20	2.83
4	DEPI	0.30	1.50E-02	.338	3				
4	PLSP	2.70	.135	3.04	12				
	TOTAL		14.78	100.00		39.430			189.33

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	178.44
OPPO	16.18
PHHO	1.64
Shrub Prod.	196.26
Total	385.59

PRECIPITATION DATA
RAIN GUAGE NO. 169 SHOSHO ANT EXCL 2 AUG 21/73
OCT. 15 TO APR. 15 = 2.78
APR. 15 TO JULY 1 = 2.92
JULY 1 TO SEPT. 1 = 1.96
SEPT. 1 TO OCT. 15 = 3.99
SEASON TOTAL = 11.65
LONG TERM AVERAGE = 10.45

**no utilization

```
          1011    SHOSHO ANT NO EXCL 4 AUG     22/74  INSIDE NATIVE

                                NUMBER PLOTS = 20
                                  PLOT SIZE 1X1
PLANT   PLANT    TOTAL    AVE.    PERCENT    ABS.     TOTAL    AVE.     WGT./    LBS
CODE    NAME     TRANS    PER-    COMPO-     PLOT     WGT.     WGT.     UNIT     PER
                 BASAL    CENT    SITION     FREQ.    GMS/20   /PLOT    BASAL    AC.
                 AREA     BASAL              BASE     SQ.FT.   OCCUR-   AREA
                 PER-     AREA               20                RENCES
                 CENT

  6    *ARTR    224.00 11.2                   10
  6    *OPPO     13.00 .650                    3
   PER GRASS     85.50  4.27                  12      41.43     3.45    0.48  198.93
  3     AGSM     11.10 .555       10.4        12      14.07     1.17    1.27   67.560
  3     BOGR     61.00 3.05       57.3        10      14.81     1.48    0.24   71.113
  3     POSE      1.20 6.00E-02  1.13          3       0.19     0.06    0.16   .91232
  3     STCO     12.20 .610       11.5         3      12.36     4.12    1.01   59.349
   PER FORBS     19.10  0.95                   9       2.44     0.27    0.13   11.72
  2     PELA      0.10 T          9.39E-02     1
  2     SPCO     19.00 .950       17.8         9
   ANN FORBS      1.90  0.09                   8       2.19     0.27    1.15   10.52
  4     PLSP      1.90 9.50E-02  1.78          8
    TOTAL             17.17     100.00                46.060                  221.17

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR		154.83
OPPO		34.49
	Shrub Prod.	189.32
	Total	410.49

```
PRECIPITATION DATA
 RAIN GUAGE NO. 170   SHOSHO ANT NO EXCL 4 AUG     22/74
OCT. 15 TO APR. 15 =  2.57
APR. 15 TO JULY 1  =  2.63
JULY 1 TO SEPT. 1  =  2.12
SEPT. 1 TO OCT. 15 =  3.23
SEASON TOTAL       = 10.55
LONG TERM AVERAGE  =  9.74
```

**no utilization

```
        1C11   SHOSHO ANT SO EXCL 4 AUG    22/73  INSIDE NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT  PLANT   TCTAL  AVE.   PERCENT  ABS.    TOTAL   AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT    WGT.    WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.   GMS/20  /PLOT   BASAL  AC.
               AREA   BASAL           BASE    SQ.FT.  OCCUR-  AREA
               PER-   AREA            20              RENCES
               CENT

  6   *ARTR   187.00 9.35              12
  6   *OPPC    32.00 1.60               6
   PER GRASS   80.90  4.04             13     51.01    3.92  0.63 244.93
  3    AGSM     8.50 .425      8.36     9     11.15    1.24  1.31  53.539
  3    BOGR    62.00 3.10      61.0    13     31.99    2.46  0.52  153.61
  3    CRHY     0.40 2.00E-02 .393      1      0.58    0.58  1.45  2.7850
  3    POSE     3.50 .175      3.44     5      1.89    0.38  0.54  9.0752
  3    SIHY     0.50 2.50E-02 .492      1      0.52    0.52  1.04  2.4969
  3    SPCR     3.00 .150      2.95     2      1.48    0.74  0.49  7.1065
  3    STCO     3.00 .150      2.95     1      3.40    3.40  1.13  16.326
   PER FORBS   18.50  0.92              7      3.24    0.46  0.18  15.56
  2    PELA     0.50 2.50E-02 .492      3
  2    SPCC    18.00 .900      17.7     7
   ANN FORBS    2.30  0.11             15      3.36    0.22  1.46  16.13
  4    PLSP     2.30 .115      2.26    15
     TCTAL           16.03    100.00          57.610                276.63

      * NCT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR	154.83
OPPO	34.49
Shrub Prod.	189.32
Total	465.95

```
PRECIPITATION DATA
 RAIN GUAGE NO. 170   SHOSHO ANT SO EXCL 4 AUG    22/73
OCT. 15 TC APR. 15 =   2.57
APR. 15 TC JULY 1  =   2.63
JULY 1 TC SEPT. 1  =   2.12
SEPT. 1 TC OCT. 15 =   3.23
SEASCN TCTAL       =  10.55
LCNG TERM AVERAGE  =   9.74
```

**no utilization

```
          1011    SHOSHO ANT    EXCL 4 AUG    22/73  CUT    NATIVE

                               NUMBER PLOTS = 20
                                 PLOT SIZE 1X1
PLANT   PLANT   TOTAL   AVE.    PERCENT   ABS.   TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-    PLOT   WGT.    WGT.    UNIT    PER
                BASAL   CENT    SITION    FREQ.  GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL             BASE   SQ.FT.  OCCUR-  AREA
                PER-    AREA              20             RENCES
                CENT

  6    *ARTR    42.00 2.10                   3
  6    *OPPC    41.00 2.05                   6
   PER GRASS   108.30  5.41                 14    38.32    2.74   0.35 184.00
  3    AGSM      0.10 T          7.87E-02    1     0.12    0.12   1.20   .57620
  3    BOGR     94.50 4.72      74.4        14    27.33    1.95   0.29  131.23
  3    POSE      4.70 .235       3.70        6     1.11    0.18   0.24  5.3299
  3    STCO      9.00 .450       7.09        3     9.76    3.25   1.08  46.865
   PER FORBS    12.90  0.64                  6     2.38    0.40   0.18  11.43
  2    ERPU      0.20 T          .157        1
  2    PELA      0.20 T          .157        1
  2    SPCO     12.50 .625       9.84        6
   ANN FORBS     5.80  0.29                 19     4.67    0.25   0.81   22.42
  4    CRY       1.00 5.00E-02 .787          1
  4    DEPI      0.10 T          7.87E-02    1
  4    PLSP      4.70 .235       3.70       19
     TOTAL             10.50    100.00             45.370                217.85

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR		106.50
OPPO		36.80
	Shrub Prod.	143.30
	Total	361.15

```
PRECIPITATION DATA
 RAIN GUAGE NO. 170   SHOSHO ANT    EXCL 4 AUG    22/73
OCT. 15 TO APR. 15 =   2.57
APR. 15 TO JULY 1  =   2.63
JULY 1 TO SEPT. 1  =   2.12
SEPT. 1 TO OCT. 15 =   3.23
SEASON TOTAL       =  10.55
LONG TERM AVERAGE  =   9.74
```

**no utilization

```
15 12   APR 29  RUNBNAA...
           1013   SHOSHO ANT NO EXCL 7 AUG    22/73  INSIDE NATIVE

                         NUMBER PLOTS = 20
                           PLOT SIZE 1X1
PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT   WGT.   WGT.   UNIT   PER
              BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT  BASAL  AC.
              AREA   BASAL           BASE   SQ.FT. OCCUR- AREA
              PER-   AREA            20            RENCES
              CENT

  6   *ARTR   180.00 9.00              12
  6   *OPPO    23.00 1.15               6
   PER GRASS   84.30  4.21             18    55.52   3.08  0.66 266.59
  3   AGSM     17.80 .890     19.9     18    28.41   1.58  1.60  136.42
  3   BOGR     57.00 2.85     63.7     10    22.66   2.27  0.40  108.81
  3   POSE      5.50 .275     6.15      7     1.56   0.22  0.28  7.4906
  3   STCO      4.00 .200     4.47      2     2.89   1.44  0.72  13.877
   PER FORBS    4.00  0.20              3     0.78   0.26  0.19   3.75
  2   SPCO      4.00 .200     4.47      3
   ANN FORBS    1.20  0.06              7     1.16   0.17  0.97   5.57
  4   DEPI      0.20 1.00E-02 .223      2
  4   GIPU      0.10 T        .112      1
  4   PLSP      0.90 4.50E-02 1.01      7
     TOTAL          14.62    100.00         57.460               275.91

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE
```

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	119.00
OPPO	25.59
PHHO	1.89
Shrub Prod.	146.45
Total	422.36

PRECIPITATION DATA
RAIN GUAGE NO. 158   SHOSHO ANT NO EXCL 7 AUG   22/73
OCT. 15 TO APR. 15 = 2.63
APR. 15 TO JULY 1 = 2.49
JULY 1 TO SEPT. 1 = 2.00
SEPT. 1 TO OCT. 15 = E 4.00
SEASON TOTAL = E11.12
LONG TERM AVERAGE = 10.01

**no utilization

1013 SHOSHO ANT SO EXCL 7 AUG 22/73 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	196.10	9.80		13				
6	*PHHO	19.10	.955		3				
PER GRASS		74.20	3.71		17	40.22	2.37	0.54	193.12
3	AGSM	11.60	.580	15.5	17	13.96	0.82	1.20	67.032
3	BOGR	45.00	2.25	60.2	7	15.68	2.24	0.35	75.291
3	POSE	10.60	.530	14.2	6	4.13	0.69	0.39	19.831
3	SIHY	2.00	.100	2.68	3	2.67	0.89	1.33	12.821
3	STCO	5.00	.250	6.69	2	3.78	1.89	0.76	18.150
ANN FORBS		0.50	0.02		3	0.30	0.10	0.60	1.44
4	DEPI	0.20	1.00E-02	.268	2				
4	PLSP	0.30	1.50E-02	.402	3				
	TOTAL		14.49	100.00		40.520			194.56

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	119.00
OPPO	25.59
PHHO	1.86
Shrub Prod.	146.45
Total	341.01

PRECIPITATION DATA
RAIN GUAGE NO. 158 SHOSHO ANT SO EXCL 7 AUG 22/73
OCT. 15 TO APR. 15 = 2.63
APR. 15 TO JULY 1 = 2.49
JULY 1 TO SEPT. 1 = 2.00
SEPT. 1 TO OCT. 15 = E 4.00
SEASON TOTAL = E11.12
LONG TERM AVERAGE = 10.01

**no utilization

1013 SHOSHO ANT EXCL 7 AUG 22/73 OUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	226.10	11.3		15				
6	*OPPO	25.00	1.25		3				
	PER GRASS	71.60	3.58		19	36.60	1.93	0.51	175.74
3	AGSM	8.60	.430	10.8	19	14.78	0.78	1.72	70.969
3	BOGR	47.00	2.35	59.0	6	14.63	2.44	0.31	70.249
3	POSE	9.50	.475	11.9	6	2.20	0.37	0.23	10.564
3	SIHY	0.50	2.50E-02	.627	1	0.26	0.26	0.52	1.2484
3	STCO	6.00	.300	7.53	2	4.73	2.36	0.79	22.712
	PER FORBS	5.20	0.26		3	0.63	0.21	0.12	3.03
2	ERPU	1.20	6.00E-02	1.51	2				
2	SPCO	4.00	.200	5.02	3				
	ANN GRASS	0.20	0.01		2	0.13	0.06	0.65	0.62
5	BRTE	0.20	1.00E-02	.251	2				
	ANN FORBS	2.70	0.13		12	2.64	0.22	0.98	12.68
4	CRBR	1.00	5.00E-02	1.25	1				
4	DEPI	0.10	T	.125	1				
4	PLSP	1.60	8.00E-02	2.01	12				
	TOTAL		16.54	100.00		40.000			192.07

* NOT COMPUTED IN PERCENT COMPOSITION.
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	84.63
OPPO	33.54
PHHO	.81
Shrub Prod.	118.98
Total	311.03

PRECIPITATION DATA
RAIN GUAGE NO. 158 SHOSHO ANT EXCL 7 AUG 22/73
OCT. 15 TO APR. 15 = 2.63
APR. 15 TO JULY 1 = 2.49
JULY 1 TO SEPT. 1 = 2.00
SEPT. 1 TO OCT. 15 =E 4.00
SEASON TOTAL =E 11.12
LONG TERM AVERAGE = 10.01

**no utilization

1014 SHOSHO ANT NO EXCL 8 AUG 22/73 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	114.00	5.70		7				
6	*OPPO	9.00	.450		1				
	PER GRASS	97.80	4.89		20	75.99	3.80	0.78	364.88
3	AGSM	43.70	2.18	40.9	20	50.01	2.50	1.14	240.13
3	BOGR	26.00	1.30	24.3	6	10.93	1.82	0.42	52.483
3	POSE	6.80	.340	6.37	5	1.32	0.26	0.19	6.3382
3	STCO	21.30	1.06	19.9	7	13.73	1.96	0.64	65.927
	PER FORBS	6.00	0.30		2	0.51	0.25	0.08	2.45
2	ERPU	3.00	.150	2.81	2				
2	SPCO	3.00	.150	2.81	2				
	ANN FORBS	3.00	0.15		16	5.13	0.32	1.71	24.63
4	DEPI	0.10	T	9.36E-02	1				
4	PLSP	2.90	.145	2.72	16				
	TOTAL		11.49	100.00		81.630			391.96

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	130.33
OPPO	46.28
Shrub Prod.	176.61
Total	568.57

PRECIPITATION DATA
RAIN GUAGE NO. 172 SHOSHO ANT NO EXCL 8 AUG 22/73
OCT. 15 TO APR. 15 = 2.73
APR. 15 TO JULY 1 = 2.26
JULY 1 TO SEPT. 1 = 2.03
SEPT. 1 TO OCT. 15 = 3.73
SEASON TOTAL = 10.75
LONG TERM AVERAGE = 9.75

**no utilization

1014 SHOSHO ANT SO EXCL 8 AUG 22/73 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	36.50	1.82		6				
6	*OPPO	50.00	2.50		5				
PER GRASS		97.50	4.87		19	62.62	3.30	0.64	300.68
3	AGSM	16.10	.805	14.8	19	30.44	1.60	1.89	146.16
3	BOGR	54.50	2.72	50.1	10	13.44	1.34	0.25	64.535
3	POSE	5.70	.285	5.24	6	0.97	0.16	0.17	4.6576
3	SIHY	3.00	.150	2.76	2	1.45	0.72	0.48	6.9625
3	STCO	18.20	.910	16.7	9	16.32	1.81	0.90	78.364
PER FORBS		8.00	0.40		3	1.36	0.45	0.17	6.53
2	ERPU	3.00	.150	2.76	1				
2	SPCO	5.00	.250	4.60	3				
ANN FORBS		3.20	0.16		14	3.75	0.27	1.17	18.01
4	DEPI	0.30	1.50E-02	.276	3				
4	PLSP	2.90	.145	2.67	14				
TOTAL			9.76	100.00		67.730			325.22

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	130.33
OPPO	46.28
Shrub Prod.	176.61
Total	501.83

PRECIPITATION DATA
RAIN GUAGE NO. 172 SHOSHO ANT SO EXCL 8 AUG 22/73
OCT. 15 TO APR. 15 = 2.73
APR. 15 TO JULY 1 = 2.26
JULY 1 TO SEPT. 1 = 2.03
SEPT. 1 TO OCT. 15 = 3.73
SEASON TOTAL = 10.75
LONG TERM AVERAGE = 9.75

**no utilization

1014 SHOSHO ANT EXCL 8 AUG 22/73 OUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	140.30	7.01		12				
6	*OPPO	17.00	.850		2				
PER GRASS		61.80	3.09		15	27.00	1.80	0.44	129.65
3	AGSM	12.80	.640	19.0	15	15.07	1.00	1.18	72.362
3	BOGR	30.60	1.53	45.5	10	8.62	0.86	0.28	41.391
3	POSE	11.40	.570	16.9	11	0.81	0.07	0.07	3.8894
3	STCO	7.00	.350	10.4	4	2.50	0.62	0.36	12.004
PER FORBS		2.00	0.10		2	0.21	0.10	0.10	1.01
2	ERPU	2.00	.100	2.97	2				
ANN FORBS		3.50	0.17		15	2.79	0.19	0.80	13.40
4	DEPI	0.10	T	.149	1				
4	PLSP	3.40	.170	5.05	15				
TOTAL			11.23	100.00		30.000			144.05

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	247.38
OPPO	11.29
PHHO	.97
Shrub Prod.	259.64
Total	403.69

PRECIPITATION DATA
RAIN GUAGE NO. 172 SHOSHO ANT EXCL 8 AUG 22/73
OCT. 15 TO APR. 15 = 2.73
APR. 15 TO JULY 1 = 2.26
JULY 1 TO SEPT. 1 = 2.03
SEPT. 1 TO OCT. 15 = 3.73
SEASON TOTAL = 10.75
LONG TERM AVERAGE = 9.75

**no utilization

1015 SHOSHO ANT NO EXCL 9 AUG 22/73 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	204.00	10.2		12				
6	*OPPO	7.00	.350		2				
6	*PHHO	11.00	.550		2				
	PER GRASS	42.60	2.13		18	31.82	1.77	0.75	152.79
3	AGSM	15.90	.795	34.8	18	24.24	1.35	1.52	116.39
3	BOGR	20.00	1.00	43.8	4	2.31	0.58	0.12	11.092
3	CAEL	1.50	7.50E-02	3.28	5	1.30	0.26	0.87	6.2422
3	POSE	2.70	.135	5.91	6	1.73	0.29	0.64	8.3069
3	STCO	2.50	.125	5.47	2	2.24	1.12	0.90	10.756
	PER FORBS	2.00	0.10		2	0.12	0.06	0.06	0.58
2	SPCO	2.00	.100	4.38	2				
	ANN FORBS	1.10	0.05		2	0.42	0.21	0.38	2.02
4	PLSP	1.10	5.50E-02	2.41	2				
	TOTAL		13.38	100.00		32.360			155.38

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	138.29
OPPO	19.39
PHHO	5.06
Shrub Prod.	162.74
Total	318.12

PRECIPITATION DATA
RAIN GUAGE NO. 171 SHOSHO ANT NO EXCL 9 AUG 22/73
OCT. 15 TO APR. 15 = 2.68
APR. 15 TO JULY 1 = 2.52
JULY 1 TO SEPT. 1 = 2.19
SEPT. 1 TO OCT. 15 = 3.60
SEASON TOTAL = 10.90
LONG TERM AVERAGE = 9.69

**no utilization

1015 SHOSHO ANT SO EXCL 9 AUG 22/73 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	224.00	11.2		15				
6	*OPPO	4.00	.200		1				
6	*PHHO	5.00	.250		1				
PER GRASS		68.40	3.42		18	33.75	1.87	0.49	162.06
3	AGSM	15.40	.770	22.0	18	21.54	1.20	1.40	103.43
3	BOGR	49.00	2.45	70.0	9	11.24	1.25	0.23	53.971
3	POSE	3.50	.175	5.00	4	0.78	0.19	0.22	3.7453
3	STCO	0.50	2.50E-02	.714	1	0.19	0.19	0.38	.91232
PER FORBS		1.10	0.05		1	0.48	0.48	0.44	2.30
2	ALTE	0.10	T	.143	1				
2	SPCO	1.00	5.00E-02	1.43	1				
ANN FORBS		0.50	0.02		5	0.55	0.11	1.10	2.64
4	PLSP	0.50	2.50E-02	.714	5				
TOTAL			15.15	100.00		34.780			167.00

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	138.29
OPPO	19.39
PHHO	5.06
Shrub Prod.	162.74
Total	329.74

PRECIPITATION DATA
RAIN GUAGE NO. 171 SHOSHO ANT SO EXCL 9 AUG 22/73
OCT. 15 TO APR. 15 = 2.68
APR. 15 TO JULY 1 = 2.52
JULY 1 TO SEPT. 1 = 2.19
SEPT. 1 TO OCT. 15 = 3.60
SEASON TOTAL = 10.90
LONG TERM AVERAGE = 9.69

**no utilization

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           1015    SHOSHO ANT    EXCL 9 AUG    22/73  OUT    NATIVE

                                   NUMBER PLOTS = 20
                                     PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.   TOTAL   AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT   WGT.    WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.  GMS/20  /PLOT   BASAL  AC.
               AREA   BASAL           BASE   SQ.FT.  OCCUR-  AREA
               PER-   AREA            20             RENCES
               CENT

 6    *ARTR    95.10 4.75               10
 6    *OPPC    14.00 .700                3
 6    *PHHO     2.00 .100                2
  PER GRASS    37.30  1.86              19    28.12    1.48   0.75 135.02
 3    AGSM     17.80 .890      39.4     19    23.28    1.23   1.31  111.78
 3    BOGR     10.50 .525      23.2      5     2.27    0.45   0.22  10.900
 3    POSE      7.00 .350      15.5      3     1.57    0.52   0.22  7.5387
 3    SIHY      2.00 .100      4.42      1     1.00    1.00   0.50  4.8017
  PER FORBS     6.00  0.30               2     0.67    0.33   0.11    3.22
 2    SPCO      6.00 .300      13.3      2
  ANN FORBS     1.90  0.09              12     3.01    0.25   1.58   14.45
 4    PLSP      1.90 9.50E-02 4.20      12
    TOTAL            7.81     100.00          31.800                152.69

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE
```

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	195.46
OPPO	14.24
PHHO	1.73
Shrub Prod.	211.43
Total	364.12

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PRECIPITATION DATA
 RAIN GUAGE NO. 171   SHOSHO ANT    EXCL 9 AUG    22/73
OCT. 15 TO APR. 15 =  2.68
APR. 15 TO JULY 1  =  2.52
JULY 1 TO SEPT. 1  =  2.19
SEPT. 1 TO OCT. 15 =  3.60
SEASON TOTAL       = 10.90
LONG TERM AVERAGE  =  9.69
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**no utilization

1017 SHOSHO ANT NO EXCL11 AUG 23/73 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	374.00	18.7		13				
6	*PHHO	1.00	5.00E-02		1				
PER GRASS		76.20	3.81		18	52.75	2.93	0.69	253.29
3	AGSM	13.70	.685	15.2	18	21.17	1.18	1.55	101.65
3	BOGR	34.00	1.70	37.7	11	9.54	0.87	0.28	45.808
3	POSE	7.00	.350	7.75	6	1.57	0.26	0.22	7.5387
3	STCO	21.50	1.07	23.8	8	20.47	2.56	0.95	98.291
PER FORBS		13.50	0.67		5	2.25	0.45	0.17	10.80
2	ERPU	0.50	2.50E-02	.554	1				
2	SPCO	13.00	.650	14.4	5				
ANN FORBS		0.60	0.03		6	0.48	0.08	0.80	2.30
4	PLSP	0.60	3.00E-02	.664	6				
	TOTAL		23.26	100.00		55.480			266.40

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	127.31
OPPO	.95
PHHO	22.00
Shrub Prod.	150.26
Total	416.66

PRECIPITATION DATA
RAIN GUAGE NO. 173 SHOSHO ANT NO EXCL11 AUG 23/73
OCT. 15 TO APR. 15 = 2.75
APR. 15 TO JULY 1 = 2.94
JULY 1 TO SEPT. 1 = 1.82
SEPT. 1 TO OCT. 15 = 3.44
SEASON TOTAL = 10.95
LONG TERM AVERAGE = 10.25

**no utilization

1017 SHOSHO ANT SO EXCL11 AUG 23/73 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	214.50	10.7		9				
6	*OPPO	20.50	1.02		5				
PER GRASS		135.70	6.78		17	51.51	3.03	0.38	247.34
3	AGSM	11.00	.550	7.49	9	16.37	1.82	1.49	78.604
3	BOGR	122.00	6.10	83.1	17	34.34	2.02	0.28	164.89
3	POSE	2.50	.125	1.70	4	0.73	0.18	0.29	3.5052
3	STCO	0.20	T	.136	1	0.07	0.07	0.35	.33612
PER FORBS		8.60	0.43		2	1.61	0.80	0.19	7.73
2	ALTE	0.10	T	6.81E-02	1				
2	ERPU	0.50	2.50E-02	.341	1				
2	SPCO	8.00	.400	5.45	2				
ANN FORBS		2.50	0.12		14	4.10	0.29	1.64	19.69
4	DEPI	0.10	T	6.81E-02	1				
4	PLSP	2.40	.120	1.63	14				
	TOTAL		19.09	100.00		57.220			274.75

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	127.31
OPPO	.95
PHHO	22.00
Shrub Prod.	150.26
Total	425.01

PRECIPITATION DATA
RAIN GUAGE NO. 173 SHOSHO ANT SO EXCL11 AUG 23/73
OCT. 15 TO APR. 15 = 2.75
APR. 15 TO JULY 1 = 2.94
JULY 1 TO SEPT. 1 = 1.82
SEPT. 1 TO OCT. 15 = 3.44
SEASON TOTAL = 10.95
LONG TERM AVERAGE = 10.25

**no utilization

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          1017   SHOSHO ANT    EXCL11 AUG    23/73  OUT    NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.    TOTAL  AVE.   WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT    WGT.   WGT.   UNIT   PER
               BASAL  CENT   SITION   FREQ.   GMS/20 /PLOT  BASAL  AC.
               AREA   BASAL           BASE    SQ.FT. OCCUR- AREA
               PER-   AREA            20             RENCES
               CENT

  6   *ARTR   166.00 8.30               12
  6   *OPPO    13.00 .650                4
  6   *PHHO     0.50 2.50E-02            1
   PER GRASS   69.70  3.48              20      41.49   2.07   0.60 199.22
  3    AGSM    16.80 .840      21.4     20      32.48   1.62   1.93  155.96
  3    BOGR    33.00 1.65      42.0     10       4.88   0.49   0.15  23.432
  3    POSE    18.90 .945      24.1     14       3.78   0.27   0.20  18.150
  3    STCO     1.00 5.00E-02 1.27       2       0.35   0.17   0.35  1.6806
   PER FORBS    5.10  0.25               3       0.80   0.27   0.16    3.84
  2    ALTE     0.10 T         .127      1
  2    SPCO     5.00 .250      6.37      3
   ANN FORBS    3.70  0.18              19      10.42   0.55   2.82  50.03
  4    DEPI     0.20 1.00E-02 .255       2
  4    PLSP     3.50 .175      4.46     19
     TOTAL            12.90   100.00            52.710               253.10

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARTR		56.06
OPPO		1.05
	Shrub Prod.	57.11
	Total	310.21

```
PRECIPITATION DATA
 RAIN GUAGE NO. 173   SHOSHO ANT    EXCL11 AUG    23/73
OCT. 15 TO APR. 15 =   2.75
APR. 15 TO JULY 1  =   2.94
JULY 1 TO SEPT. 1  =   1.82
SEPT. 1 TO OCT. 15 =   3.44
SEASON TOTAL       =  10.95
LONG TERM AVERAGE  =  10.25
```

**no utilization

2009 SMILO EXCL JULY 24/73 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	283.00	14.1		10				
6	*OPPO	13.00	.650		2				
PER GRASS		56.80	2.84		11	17.17	1.56	0.30	82.45
3	AGSM	8.00	.400	12.2	11	6.02	0.55	0.75	28.906
3	BOGR	24.50	1.22	37.4	4	3.20	0.80	0.13	15.365
3	POSE	15.20	.760	23.2	10	3.77	0.38	0.25	18.102
3	SIHY	3.10	.155	4.73	3	2.26	0.75	0.73	10.852
3	STCO	6.00	.300	9.16	1	1.92	1.92	0.32	9.2193
ANN GRASS		7.70	0.38		11	6.80	0.62	0.88	32.65
5	BRTE	2.60	.130	3.97	6				
5	FEOC	5.10	.255	7.79	11				
ANN FORBS		1.00	0.05		7	0.41	0.06	0.41	1.97
4	DEPI	0.30	1.50E-02	.458	3				
4	PLSP	0.70	3.50E-02	1.07	7				
TOTAL			18.07	100.00		24.380			117.07

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	173.42
OPPO	10.70
Shrub Prod.	184.12
Total	301.19

PRECIPITATION DATA
RAIN GUAGE NO. 36 SMILO EXCL JULY 24/73
OCT. 15 TO APR. 15 = 2.72
APR. 15 TO JULY 1 = 2.58
JULY 1 TO SEPT. 1 = 1.67
SEPT. 1 TO OCT. 15 = 1.75
SEASON TOTAL = 8.72
LONG TERM AVERAGE = 8.34

**no utilization

2009 SMILO EXCL JULY 24/73 OUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	348.00	17.4		12				
6	*OPPO	41.00	2.05		2				
PER GRASS		83.50	4.17		15	25.43	1.70	0.30	122.11
3	AGSM	14.10	.705	13.6	11	7.04	0.64	0.50	33.804
3	BOGR	25.00	1.25	24.2	4	3.61	0.90	0.14	17.334
3	POSE	42.00	2.10	40.7	15	13.17	0.88	0.31	63.238
3	SIHY	1.30	6.50E-02	1.26	3	0.88	0.29	0.68	4.2255
3	STCO	1.10	5.50E-02	1.06	2	0.73	0.36	0.66	3.5052
PER FORBS		14.00	0.70		1	4.10	4.10	0.29	19.69
2	MAGL	14.00	.700	13.6	1				
ANN GRASS		4.70	0.23		11	5.30	0.48	1.13	25.45
5	BRTE	1.30	6.50E-02	1.26	8				
5	FEOC	3.40	.170	3.29	11				
ANN FORBS		1.10	0.05		5	0.62	0.12	0.56	2.98
4	ANSE	0.10	T	9.68E-02	1				
4	DEPI	0.60	3.00E-02	.581	5				
4	LARE	0.10	T	9.68E-02	1				
4	PLSP	0.30	1.50E-02	.290	2				
TOTAL			24.61	100.00		35.450			170.22

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	159.28
OPPO	7.25
Shrub Prod.	166.53
Total	336.75

PRECIPITATION DATA
RAIN GUAGE NO. 36 SMILO EXCL JULY 24/73
OCT. 15 TO APR. 15 = 2,72
APR. 15 TO JULY 1 = 2.58
JULY 1 TO SEPT. 1 = 1.67
SEPT. 1 TO OCT. 15 = 1.75
SEASON TOTAL = 8.72
LONG TERM AVERAGE = 8.34

**no utilization

2009 SMILO EXCL JULY 24/73 INSIDE SPRAY

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	15.00	.750		1				
6	*OPPO	10.00	.500		3				
	PER GRASS	19.10	0.95		7	8.15	1.16	0.43	39.13
3	AGSM	2.00	.100	1.24	7	2.26	0.32	1.13	10.852
3	BOGR	2.50	.125	1.56	2	0.19	0.09	0.08	.91232
3	POSE	8.40	.420	5.23	7	2.40	0.34	0.29	11.524
3	SIHY	6.00	.300	3.73	2	3.18	1.59	0.53	15.269
3	STCO	0.20	T	.124	1	0.12	0.12	0.60	.57620
	ANN GRASS	141.00	7.05		20	88.13	4.41	0.63	423.17
5	BRTE	140.00	7.00	87.1	20				
5	FEOC	1.00	5.00E-02	.622	9				
	ANN FORBS	0.60	0.03		4	0.18	0.04	0.30	0.86
4	DEPI	0.40	2.00E-02	.249	4				
4	PLSP	0.20	1.00E-02	.124	2				
	TOTAL		9.28	100.00		96.460			463.17

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	25.37
OPPO	20.20
Shrub Prod.	45.57
Total	508.74

PRECIPITATION DATA
RAIN GUAGE NO. 36 SMILO EXCL JULY 24/73
OCT. 15 TO APR. 15 = 2.72
APR. 15 TO JULY 1 = 2.58
JULY 1 TO SEPT. 1 = 1.67
SEPT. 1 TO OCT. 15 = 1.75
SEASON TOTAL = 8.72
LONG TERM AVERAGE = 8.34

**no utilization

```
        2009   SMILO  EXCL           JULY   24/73  OUT    SPRAY

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL  AVE.   WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.   WGT.   UNIT   PER
               BASAL  CENT    SITION   FREQ.   GMS/20 /PLOT  BASAL  AC.
               AREA   BASAL            BASE    SQ.FT. OCCUR- AREA
               PER-   AREA             20             RENCES
               CENT

  PER GRASS    38.40  1.92              12       9.65   0.80  0.25  46.34
 3    AGSM      2.20 .110      .799      6       3.90   0.65  1.77  18.727
 3    BOGR      0.20 T        7.27E-02   1       0.09   0.09  0.45  .43215
 3    POSE     36.00 1.80     13.1      12       5.66   0.47  0.16  27.178
  PER FORBS     0.50  0.02               1       0.14   0.14  0.28   0.67
 2    ERPU      0.50 2.50E-02 .182       1
  ANN GRASS   232.90 11.64              20     110.54   5.53  0.47 530.78
 5    BRTE    232.00 11.6     84.3      20
 5    FEOC      0.90 4.50E-02 .327       5
  ANN FORBS     3.40  0.17              15       4.45   0.30  1.31  21.37
 4    DEPI      2.10 .105      .763     15
 4    LARE      1.30 6.50E-02 .472       8
    TOTAL            13.76    100.00           124.78               599.16

          * NOT COMPUTED IN PERCENT COMPOSITION
          T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

          ARTR                                                      27.73
          OPPO                                                       6.58
                                                     Shrub Prod.    34.31
                                                           Total   633.47

PRECIPITATION DATA
 RAIN GUAGE NO. 36    SMILO  EXCL            JULY   24/73
OCT. 15 TO APR. 15 =  2.72
APR. 15 TO JULY 1  =  2.58
JULY 1 TO SEPT. 1  =  1.67
SEPT. 1 TO OCT. 15 =  1.75
SEASON TOTAL       =  8.72
LONG TERM AVERAGE  =  8.34
```

**no utilization

```
          1005   SWEET  WATER  EXCL   JULY   26/73  INSIDE ARNO

                                  NUMBER PLOTS = 20
                                    PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.   TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT   WGT.   WGT.    UNIT   PER
               BASAL  CENT    SITION   FREQ.  GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL            BASE   SQ.FT. OCCUR-  AREA
               PER-   AREA             20            RENCES
               CENT

  6    *ARNO   322.00 16.1              12
  6    *CHVI     3.00 .150               1
  6    *PHHO     3.00 .150               1
  6    *TECA    24.00 1.20               2
   PER GRASS    37.00  1.85             14      33.93    2.42   0.92 162.92
  3    AGSM      0.30 1.50E-02 .476      2       0.40    0.20   1.33  1.9207
  3    CAEL      0.70 3.50E-02 1.11      5       0.51    0.10   0.73  2.4489
  3    CAFI      7.80 .390     12.4      5       2.87    0.57   0.37  13.781
  3    KOCR      6.50 .325     10.3     11       8.58    0.78   1.32  41.199
  3    ORHY      4.90 .245     7.78      5       5.91    1.18   1.21  28.378
  3    POSE      0.20 T        .317      1       0.38    0.38   1.90  1.8246
  3    STCO     16.60 .830     26.3     14      15.28    1.09   0.92  73.370
   PER FORBS    26.00  1.30              3      11.61    3.87   0.45  55.75
  2    AST       2.00 .100     3.17      1
  2    COPA      5.00 .250     7.94      2
  2    CRY       6.00 .300     9.52      2
  2    PSTE     13.00 .650     20.6      3
     TOTAL            20.75   100.00            45.540                218.67

          * NOT COMPUTED IN PERCENT COMPOSITION
          T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
          ARFR                                                          1.41
          ARNO                                                        128.70
          ARTR                                                         21.56
          CHVI                                                           .35
          LEPU                                                          2.64
          OPPO                                                          1.62
          PHHO                                                         12.62
          TECA                                                          9.04
          UNK                                                          13.32
PRECIPITATION DATA                                       Shrub Prod.  191.27
 RAIN GUAGE NO. 11     SWEET  WATER  EXCL   JULY   26/73       Total  409.94
OCT. 15 TO APR. 15 =   6.78
APR. 15 TO JULY 1  =   0.58
JULY 1 TO SEPT. 1  =   3.12
SEPT. 1 TO OCT. 15 =   3.53
SEASON TOTAL       =  14.01
LONG TERM AVERAGE  =   8.57
```

**no utilization

1005 SWEET WATER EXCL JULY 26/73 OUT ARNO

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARNO	195.00	9.75		8				
6	*LEPU	26.00	1.30		3				
6	*OPPO	5.00	.250		1				
6	*PHHO	15.20	.760		4				
6	*TECA	13.00	.650		2				
PER GRASS		33.70	1.68		13	31.34	2.41	0.93	150.49
3	AGSM	1.50	7.50E-02	2.79	6	3.35	0.56	2.23	16.086
3	CAEL	1.60	8.00E-02	2.98	6	1.37	0.23	0.86	6.5783
3	CAFI	6.00	.300	11.2	1	2.54	2.54	0.42	12.196
3	KOCR	3.70	.185	6.89	4	3.21	0.80	0.87	15.413
3	ORHY	1.00	5.00E-02	1.86	1	0.87	0.87	0.87	4.1775
3	POSE	1.70	8.50E-02	3.17	3	0.45	0.15	0.26	2.1608
3	STCO	18.20	.910	33.9	13	19.55	1.50	1.07	93.873
PER FORBS		20.00	1.00		4	8.36	2.09	0.42	40.14
2	AST	3.00	.150	5.59	1				
2	CRY	1.00	5.00E-02	1.86	1				
2	PSTE	16.00	.800	29.8	4				
	TOTAL		15.39	100.00		39.700			190.63

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARNO	100.94
ARTR	63.81
CHNA	9.53
CHVI	4.37
LEPU	5.28
OPPO	4.77
PHHO	2.10
TECA	8.35
UNK	0.75
Shrub Prod.	199.90
Total	390.53

PRECIPITATION DATA
RAIN GUAGE NO. 11 SWEET WATER EXCL JULY 26/73
OCT. 15 TO APR. 15 = 6.78
APR. 15 TO JULY 1 = 0.58
JULY 1 TO SEPT. 1 = 3.12
SEPT. 1 TO OCT. 15 = 3.53
SEASON TOTAL = 14.01
LONG TERM AVERAGE = 8.57

**no utilization

```
          1005    SWEET  WATER  EXCL    JULY   26/73  INSIDE ARTR

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.    TOTAL  AVE.    WGT./   LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT    WGT.   WGT.    UNIT    PER
               BASAL  CENT   SITION   FREQ.   GMS/20 /PLOT   BASAL   AC.
               AREA   BASAL           BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA            20             RENCES
               CENT

  6   *ARTR   289.00 14.4                8
  6   *CHIV    43.00 2.15                7
  6   *LEPU    21.00 1.05                2
  6   *PHHO     7.60 .380                4
   PER GRASS   71.60  3.58              16     58.21     3.64  0.81 279.51
  3    AGSM     2.20 .110       2.76    10      3.74     0.37  1.70  17.958
  3    CAEL     2.80 .140       3.52    11      2.36     0.21  0.84  11.332
  3    CAFI     8.40 .420       10.6     7      2.85     0.41  0.34  13.685
  3    KOCR    36.10 1.80       45.4    16     29.83     1.86  0.83  143.23
  3    ORHY     0.30 1.50E-02 .377       2      0.35     0.17  1.17  1.6806
  3    POSE     3.50 .175       4.40     4      1.44     0.36  0.41  6.9144
  3    SPCR     1.00 5.00E-02 1.26       1      0.47     0.47  0.47  2.2568
  3    STCO    17.30 .865       21.7    16     17.17     1.07  0.99  82.445
   PER FORBS    8.00  0.40               2      2.85     1.42  0.36  13.68
  2    AST      7.00 .350       8.79     2
  2    EROV     1.00 5.00E-02 1.26       1
     TOTAL          22.01     100.00           61.060               293.19

     * NOT COMPUTED IN PERCENT COMPOSITION
     T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARHO	5.88
ARTR	186.26
CHVI	10.80
LEPU	1.18
OPPO	.43
PHHO	30.02
TECA	1.99
Shrub Prod.	236.56
Total	529.75

```
PRECIPITATION DATA
 RAIN GUAGE NO.  11    SWEET   WATER   EXCL    JULY    26/73
OCT. 15 TO APR. 15 =   6.78
APR. 15 TO JULY 1  =   0.58
JULY 1 TO SEPT. 1  =   3.12
SEPT. 1 TO OCT. 15 =   3.53
SEASON TOTAL       =  14.01
LONG TERM AVERAGE  =   8.57
```

**no utilization

1005 SWEET WATER EXCL JULY 26/73 OUT ARTR

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	209.50	10.5		6				
6	*CHVI	28.00	1.40		6				
6	*LEPU	8.00	.400		1				
6	*PHHO	3.20	.160		3				
PER GRASS		65.90	3.29		14	45.07	3.22	0.68	216.41
3	AGSM	1.60	8.00E-02	1.37	9	2.41	0.27	1.51	11.572
3	CAEL	1.20	6.00E-02	1.03	6	0.69	0.11	0.57	3.3132
3	CAFI	10.00	.500	8.58	6	4.01	0.67	0.40	19.255
3	KOCR	22.70	1.13	19.5	13	16.31	1.25	0.72	78.316
3	POSE	1.40	7.00E-02	1.20	5	1.22	0.24	0.87	5.8581
3	STCO	29.00	1.45	24.9	14	20.43	1.46	0.70	98.099
PER FORBS		50.60	2.53		11	20.83	1.89	0.41	100.02
2	AST	2.00	.100	1.72	1				
2	COPA	1.00	5.00E-02	.858	1				
2	EROV	1.60	8.00E-02	1.37	3				
2	PSTE	46.00	2.30	39.5	11				
	TOTAL		18.26	100.00		65.900			316.43

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARHO	2.19
ARTR	116.41
CHVI	6.26
LEPU	3.82
OPPO	3.14
PHHO	5.29
Shrub Prod.	137.11
Total	453.54

PRECIPITATION DATA
RAIN GUAGE NO. 11 SWEET WATER EXCL JULY 26/73
OCT. 15 TO APR. 15 = 6.78
APR. 15 TO JULY 1 = 0.58
JULY 1 TO SEPT. 1 = 3.12
SEPT. 1 TO OCT. 15 = 3.53
SEASON TOTAL = 14.01
LONG TERM AVERAGE = 8.57

**no utilization

2010 TWO MILE HILL JULY 19/73 INSIDE NATIVE

NUMBER OF PLOTS
COVER = 200, PRODUCTION = 20
PLOT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 200	TOTAL WGT. GMS/ 200 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*PHHC	12.0	6.00E-02		7				
1	ATNU	288.8	1.44	41.2	70	0.00	0.00	0.00	0.0000
	PER GRASS	384.2	1.92		59	521.86	8.85	1.36	250.58
3	AGCR	11.1	5.55E-02	1.58	5	19.99	4.00	1.80	9.5986
3	AGSP	186.4	.932	26.6	52	362.71	6.98	1.95	174.16
3	ORHY	34.3	.171	4.89	21	30.90	1.47	0.90	14.837
3	PCSE	78.0	.390	11.1	59	31.28	0.53	0.40	15.020
3	SIHY	74.4	.372	10.6	53	76.98	1.45	1.03	36.963
	PER FORBS	1.10	0.01		5	3.51	0.70	3.19	1.69
2	ALTE	0.7	T	9.98E-02	5				
2	MACA	0.4	T	5.71E-02	2				
	ANN GRASS	21.50	0.11		92	43.74	0.48	2.03	21.00
5	BRJA	17.1	8.55E-02	2.44	92				
5	BRTE	4.4	2.20E-02	.628	31				
	ANN FORBS	5.50	0.03		31	4.63	0.15	0.84	2.22
4	CAMI	0.1	T	1.43E-02	1				
4	HEPE	0.1	T	1.43E-02	1				
4	LARE	3.5	1.75E-02	.499	31				
4	LEDE	0.5	T	7.13E-02	5				
4	MUDI	0.1	T	1.43E-02	1				
4	UMB	1.2	T	.171	6				
	TOTAL		3.6	100.00		573.740			275.492

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	3.28
PHHO	.80
Shrub Prod.	4.080
Total	279.572

PRECIPITATION DATA
RAIN GUAGE NO. 39 TWO MILE HILL JULY 19/73
OCT. 15 TO APR. 15 = 2.88
APR. 15 TO JULY 1 = 2.60
JULY 1 TO SEPT. 1 = 1.26
SEPT. 1 TO OCT. 15 = 3.15
SEASON TOTAL = 9.89
LONG TERM AVERAGE = 9.40

**no utilization

```
15 52    MAY 03  RUNF6CA...
           2010    TWO     MILE    HILL    JULY   19/73  OUT     NATIVE

                                NUMBER OF PLOTS
                          COVER = 200, PRODUCTION = 20
                           PLOT SIZE 1 FT. X 10 FT.
PLANT   PLANT    TOTAL   AVE.    PERCENT   ABS.     TOTAL   AVE.     WGT./   LBS
CODE    NAME     TRANS   PER-    COMPO-    PLOT     WGT.    WGT.     UNIT    PER
                 BASAL   CENT    SITION    FREQ.    GMS/    /PLOT    BASAL   AC.
                 AREA    BASAL             BASE     200     OCCUR-   AREA
                 PER-    AREA              200      SQ.FT.  RENCES
                 CENT

  6  *ARTR      109.0   .545                 10
  6  *PHHO       12.0   6.00E-02              4
  1   ATNU      536.0   2.68     67.0       110    331.75     3.02   0.62   159.30
   PER GRASS    127.3   .636                 52     87.62     1.68   0.69   42.072
  3   AGCR        2.0   T          .250       2      3.04     1.52   1.52   1.4597
  3   AGSP       38.3   .191     4.79        21     32.37     1.54   0.85   15.543
  3   ORHY       14.6   7.30E-02 1.83         9     13.04     1.45   0.89   6.2614
  3   POSE       33.7   .168     4.22        24      9.56     0.40   0.28   4.5904
  3   SIHY       38.7   .193     4.84        52     29.61     0.57   0.77   14.218
   PER FORBS    90.70   0.45                 41     77.26     1.88   0.85   37.10
  2   ALTE        0.1   T          1.25E-02   1
  2   CAS         2.0   T          .250       1
  2   MACA       59.5   .297       7.44      28
  2   MAGL        1.0   T          .125       1
  2   VIO        28.1   .140       3.51      41
   ANN GRASS    30.30   0.15                110    138.49     1.26   4.57   66.50
  5   BRJA       19.2   9.60E-02 2.40       110
  5   BRTE       11.1   5.55E-02 1.39        81
   ANN FORBS    15.20   0.08                 65     21.24     0.33   1.40   10.20
  4   DEPI        0.2   T          2.50E-02   1
  4   HEPE        4.2   2.10E-02 .525        18
  4   LARE        9.7   4.85E-02 1.21        65
  4   LEDE        1.1   T          .138      10
      TOTAL             4.6      100.00            656.360                  315.164

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

      ARTR                                                                 22.56
      OPPO                                                                 12.63
                                                           Shrub Prod.    35.190
                                                                 Total   350.164


PRECIPITATION DATA
 RAIN GUAGE NO.  39   TWO    MILE    HILL    JULY    19/73
OCT. 15 TO APR. 15 = 2.88
APR. 15 TO JULY 1  = 2.60
 JULY 1 TO SEPT. 1    =  1.26
SEPT 1 TO OCT. 15     =  3.15
SEASON TOTAL          =  9.89
LONG TERM AVERAGE     =  9.40
**Production Adjusted for Utilization                      utilization     0.04
                                                   Production Adjusted   350.39
```

1006 UPPER GOVT DRAW AUG 20/73 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	212.00	10.6		8				
6	*PHHO	15.00	.750		7				
	PER GRASS	80.60	4.03		20	59.05	2.95	0.73	283.54
3	AGSM	16.40	.820	18.0	20	22.22	1.11	1.35	106.69
3	KOCR	52.50	2.63	57.6	15	34.61	2.31	0.66	166.19
3	POSE	11.70	.585	12.8	15	2.22	0.15	0.19	10.660
	PER FORBS	10.50	0.52		3	2.31	0.77	0.22	11.09
2	CAS	2.00	.100	2.20	1				
2	CRE	2.50	.125	2.74	3				
2	SPCO	6.00	.300	6.59	2				
	TOTAL		15.90	100.00		61.360			294.63

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	315.07
OPPO	1.14
PHHO	1.69
Shrub Prod.	317.90
Total	612.53

PRECIPITATION DATA
RAIN GUAGE NO. 9 UPPER GOVT DRAW AUG 20/73
OCT. 15 TO APR. 15 = 7.06
APR. 15 TO JULY 1 = 0.12
JULY 1 TO SEPT. 1 = 1.33
SEPT. 1 TO OCT. 15 = 5.00
SEASON TOTAL = 13.51
LONG TERM AVERAGE = 8.70

**no utilization

```
          1006   UPPER  GOVT   DRAW   AUG    20/73  OUT    NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1
PLANT  PLANT   TOTAL   AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE   NAME    TRANS   PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
               BASAL   CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
               AREA    BASAL            BASE    SQ.FT.  OCCUR-  AREA
               PER-    AREA             20              RENCES
               CENT

 6    *ARTR    137.00 6.85                7
 6    *PHHO     18.00 .900                6
  PER GRASS     50.90  2.54              20      22.57    1.13   0.44 108.37
 3    AGSM      14.80 .740       23.1    20      16.03    0.80   1.08  76.971
 3    KOCR       7.90 .395       12.3     8       2.35    0.29   0.30  11.284
 3    POSE      28.20 1.41       43.9    20       4.19    0.21   0.15  20.119
  PER FORBS     13.00  0.65               3       1.11    0.37   0.09   5.33
 2    AST        4.50 .225       7.01     2
 2    ERPU       1.00 5.00E-02 1.56       2
 2    SPCO       7.50 .375       11.7     3
  ANN FORBS      0.30  0.01               3       0.05    0.02   0.17   0.24
 4    PLPA       0.30 1.50E-02 .467       3
    TOTAL             10.96     100.00           23.730                113.94

        * NCT COMPUTED IN PERCENT COMPOSITION
        T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

        ARTR                                                           266.06
        OPPO                                                             4.42
        PHHO                                                             6.83
                                                         Shrub Prod.   277.30
                                                               Total   391.24

PRECIPITATION DATA
 RAIN GUAGE NO. 9      UPPER   GOVT    DRAW    AUG     20/73
OCT. 15 TO APR. 15 =   7.06
APR. 15 TO JULY 1  =   0.12
JULY 1 TO SEPT. 1  =   1.33
SEPT. 1 TO OCT. 15 =   5.00
SEASON TOTAL       =  13.51
LONG TERM AVERAGE  =   8.70
```

**no utilization

1006 UPPER GOVT DRAW AUG 20/73 INSIDE SPRAY

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
PER GRASS		84.60	4.23		20	68.34	3.42	0.81	328.15
3	AGSM	32.20	1.61	37.4	20	43.06	2.15	1.34	206.76
3	KOCR	21.00	1.05	24.4	9	14.84	1.65	0.71	71.257
3	POSE	21.40	1.07	24.9	16	3.24	0.20	0.15	15.557
3	STCO	10.00	.500	11.6	3	7.20	2.40	0.72	34.572
PER FORBS		0.50	0.02		1	0.11	0.11	0.22	0.53
2	UMB	0.50	2.50E-02	.581	1				
ANN GRASS		0.70	0.03		4	0.48	0.12	0.69	2.30
5	BRJA	0.30	1.50E-02	.348	3				
5	BRTE	0.40	2.00E-02	.465	4				
ANN FORBS		0.30	0.01		2	0.04	0.02	0.13	0.19
4	DEPI	0.10	T	.116	1				
4	LARE	0.20	1.00E-02	.232	2				
TOTAL			4.30	100.00		68.970			331.17

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	97.15
OPPO	2.52
PHHO	1.70
Shrub Prod.	101.37
Total	432.54

PRECIPITATION DATA
RAIN GUAGE NO. 9 UPPER GOVT DRAW AUG 20/73
OCT. 15 TO APR. 15 = 7.06
APR. 15 TO JULY 1 = 0.12
JULY 1 TO SEPT. 1 = 1.33
SEPT. 1 TO OCT. 15 = 5.00
SEASON TOTAL = 13.51
LONG TERM AVERAGE = 8.70

**no utilization

1006 UPPER GOVT DRAW AUG 20/73 OUT SPRAY

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	134.00	6.70		5				
6	*PHHO	9.00	.450		3				
PER GRASS		47.90	2.39		20	22.64	1.13	0.47	108.71
3	AGSM	16.60	.830	31.9	20	15.86	0.79	0.96	76.155
3	KOCR	4.10	.205	7.87	7	1.76	0.25	0.43	8.4510
3	POSE	27.20	1.36	52.2	17	5.02	0.30	0.18	24.104
PER FORBS		3.50	0.17		2	0.38	0.19	0.11	1.82
2	SPCO	3.50	.175	6.72	2				
ANN FORBS		0.70	0.03		5	0.41	0.08	0.59	1.97
4	LARE	0.20	1.00E-02	.384	2				
4	PLPA	0.50	2.50E-02	.960	5				
TOTAL			9.75	100.00		23.430			112.50

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	77.90
OPPO	2.74
PHHO	2.64
Shrub Prod.	83.28
Total	195.78

PRECIPITATION DATA
RAIN GUAGE NO. 9 UPPER GOVT DRAW AUG 20/73
OCT. 15 TO APR. 15 = 7.06
APR. 15 TO JULY 1 = 0.12
JULY 1 TO SEPT. 1 = 1.33
SEPT. 1 TO OCT. 15 = 5.00
SEASON TOTAL = 13.51
LONG TERM AVERAGE = 8.70

**no utilization

2006 WEST PASTUR EXCL JULY 10/73 INSIDE NATIVE

NUMBER OF PLOTS
COVER = 200, PRODUCTION = 20
PLOT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 200	TOTAL WGT. GMS/ 200 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARSP	165.5	.827		57				
6	*OPPO	91.2	.456		33				
1	ATNU	354.5	1.77	82.2	107	179.14	1.67	0.51	86.018
	PER GRASS	70.0	.350		163	235.58	1.45	3.37	113.12
3	AGCR	0.2	T	4.63E-02	2	0.37	0.18	1.85	.17766
3	ORHY	12.2	6.10E-02	2.83	57	33.69	0.59	2.76	16.177
3	POSE	13.7	6.85E-02	3.17	64	12.57	0.20	0.92	6.0357
3	SIHY	35.0	.175	8.11	163	175.39	1.08	5.01	84.217
3	SPCR	8.9	4.45E-02	2.06	26	13.56	0.52	1.52	6.5111
	PER FORBS	5.60	0.03		45	10.09	0.22	1.80	4.84
2	ALTE	0.2	T	4.63E-02	2				
2	MUDI	5.4	2.70E-02	1.25	45				
	ANN FORBS	1.40	0.01		12	0.66	0.05	0.47	0.32
4	MATA	1.4	T	.324	12				
	TOTAL		3.4	100.00		454.970			204.298

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARSP	36.67
OPPO	25.65
Shrub Prod.	62.320
Total	266.618

PRECIPITATION DATA
RAIN GUAGE NO. 13 WEST PASTUR EXCL JULY 10/73
OCT. 15 TO APR. 15 = 1.48
APR. 15 TO JULY 1 = 1.81
JULY 1 TO SEPT. 1 = 1.80
SEPT. 1 TO OCT. 15 = 1.15
SEASON TOTAL = 6.24
LONG TERM AVERAGE = 5.70

**no utilization

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16 37   MAY 02  RUNOOCA...
            2006   WEST   PASTUR EXCL   JULY   10/73  OUT    NATIVE

                                  NUMBER OF PLOTS
                          COVER = 200, PRODUCTION = 20
                           PLOT SIZE 1 FT. X 10 FT.
PLANT  PLANT    TOTAL  AVE.     PERCENT   ABS.    TOTAL   AVE.    WGT./  LBS
CODE   NAME     TRANS  PER-     COMPO-    PLOT    WGT.    WGT.    UNIT   PER
                BASAL  CENT     SITION    FREQ.   GMS/    /PLOT   BASAL  AC.
                AREA   BASAL              BASE    200     OCCUR-  AREA
                PER-   AREA               200     SQ.FT.  RENCES
                CENT

  6  OPPO       311.4  1.56                  74
  6  *ARPE        8.1  4.05E-02               2
  6  *ARSP      347.7  1.74                 105
  1  ATNU       626.4  3.13     89.1        110   235.83    2.14  0.38  113.24
   PER GRASS     73.1  .365                  62    61.68    0.99  0.84  29.617
  3  BOGR         0.2  T        2.84E-02      1     0.26    0.26  1.30  .12484
  3  ORHY        27.0  .135     3.84         32    13.08    0.41  0.48  6.2806
  3  POSE        10.2  5.10E-02 1.45         55     5.15    0.09  0.50  2.4729
  3  SIHY        10.3  5.15E-02 1.47         55    15.44    0.28  1.50  7.4138
  3  SPCR        25.4  .127     3.61         62    27.75    0.45  1.09  13.325
   PER FORBS     1.10   0.01                  9     0.89    0.10  0.81   0.43
  2  ALTE         0.1  T        1.42E-02      1
  2  MUDI         1.0  T        .142          9
   ANN FORBS     2.40   0.01                 20     1.58    0.08  0.66   0.76
  4  MATA         2.0  T        .284         20
  4  PLPA         0.4  T        5.69E-02      2
     TOTAL             6.9      100.00            359.320               144.041

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS
```

ARSP	68.87
OPPO	37.59
Shrub Prod.	106.460
Total	250.501

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PRECIPITATION DATA
 RAIN GUAGE NO. 13     WEST   PASTUR EXCL   JULY   10/73
OCT. 15 TO APR. 15 = 1.48
APR. 15 TO JULY 1  = 1.81
JULY 1 TO SEPT. 1  = 1.80
SEPT. 1 TO OCT. 15 = 1.15
SEASON TOTAL       = 6.24
LONG TERM AVERAGE  = 5.70
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utilization 0.23
Production Adjusted 250.73

**Production adjusted for utilization

ER'S CARD

OFFICE

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(Continued on reverse)

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